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ARTICLE I.

ON THE TREATMENT OF CHRONIC HYDROCEPHALUS BY INJECTIONS OF IODINE.

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In the winter of 1850, I published the report of a case of hydrocephalus, treated by iodine injections, which, although it eventually terminated fatally in the usual way, was yet sufficient to demonstrate the harmlessness of the treatment employed, and its value as a palliative. Since that time, another case has been treated by the same method with success.

These, it would seem, ought to be sufficient to remove all doubts concerning the propriety of resorting to this method of treatment in favorable cases. Still so large a proportion of the profession continue to regard it as a curious experiment, or a rash and dangerous operation, and in either case unjustifiable, that I have thought it best to group together the reasons which induced me to venture upon, and afterwards recommend it. These reasons are founded in analogy, the nature of the disease,

the insufficiency of other means of treatment, and the peculiar applicability of this method to this form of disease.

1. *Analogy.*

Experience has shown, that injections of iodine are uniformly successful in two forms of cyst, viz: where the contents are serous, and where the surface is not too large; hence, in hydrocele, serous cysts of the neck, and spina bifida they have very uniformly succeeded, while in cutaneous, albuminous and sanguine cysts they have often failed, and in ascites they have proved dangerous, on account of the extent of the surface affected. In these respects, chronic hydrocephalus enters into the most favorable class; it is more uniformly serous than any other drop-sical effusion, and it is confined in a cyst of limited extent, scarcely exceeding that of hydrocele.

2. *The nature of the disease.*

Chronic hydrocephalus is an encysted dropsy, in which a greater quantity of serum, than natural, exists in the ventricles of the brain, and it is, therefore, not to be regarded as simply an abnormal increase of the cerebro-spinal fluid.

Todd and Bowman, a very competent authority on this subject, are of opinion that it is distinct from it. "This fluid, which fills the sub-arachnoid spaces during life, keeps the opposed surfaces of the arachnoid membrane in contact." "The ventricles of the brain contain a secretion of very similar, if not identical characters, which Magendie describes as communicating with that of the sub-arachnoid space through an orifice in the inferior extremity of the fourth ventricle. This, however, is extremely doubtful, as the fluid of the ventricles is enclosed by a membrane which lines their cavity."*

Concerning this membrane, Kollicker expresses himself as follows: "All the portions of the ventricles, which are not lined by the continuation of the pia mater, have a special lining membrane, the so-termed *ependyma ventriculorum*." "This is a simple tessellated epithelium. It lies normally immediately upon the nerve substance, but there is so frequently developed beneath it a filamentous layer, resembling connective tissue

* *Physiological Anatomy of Man*, p. 231.

(fibrous tissue) 0.01–0.05 of a line thick, that its occurrence at a certain age might almost be described as constant, as in fact it is by Virchow."*

No nerves have been as yet discovered in the membranes of the ventricles. The plexus choroides is composed of white fibrous tissue and blood vessels. The arachnoid, according to Kollicker, has no proper vessels. These facts are only referred to here as leading to a correct understanding of the manner in which the sac is formed in hydrocephalus, and as showing the entire absence of sensibility and irritability in all the parts of the surface concerned in the formation of the lateral ventricles.

Fleuren† found that the cerebrum, including the corpora quadrigemina, the optic thalami and the corpora striata, might be pricked and lacerated without giving rise to any sign of suffering or convulsive movements, and the same results have been obtained by other experimenters.

The fibrous layer of the *ependyma ventriculorum* is constantly found thickened in hydrocephalus (Kollicker op. cit.) and "brain sand" and *corpuscula amylacea* are often found in the walls of the ventricles.

"The general anatomical characters of chronic hydrocephalus are a large accumulation in the ventricles of a clear and colorless serum, which contains very little animal matter, and a thickening and toughening of their lining membrane, for the most part, to a considerable degree."‡ "I believe the really essential part of congenital hydrocephalus is the affection of the *ependyma*."§

The view that chronic hydrocephalus is a disease of the membrane lining the ventricles confined to these cavities for the most part, and not communicating with the cavity of the arachnoid (so called), or with the sub-arachnoid space, is important, as bearing on the question of treatment. Without, therefore, going into a discussion of the various forms which the disease presents, I shall add such proofs of this view, drawn from recent and reliable sources, as will leave no doubt upon the subject.

* Manual of Human Microscopical Anatomy, p. 376 et seq.

† Du System Nerveux, p. 19.

‡ Rokitsansky Path. Anat., vol. 3, p. 274. § Ib. p. 276.

M. Blache, in a memoir, presented to the Academy of Medicine, at its sitting of May 29, 1855, arrives at the following conclusions, the result of extensive researches.

1st. "In chronic hydrocephalus of the ventricles, the fluid accumulates in the lateral ventricles, rarely in the fourth ventricle. It does not communicate with the periphery of the brain, nor with the spinal cord.

5th. "The internal membrane of the ventricles becomes so thick that it may be dissected at all points, showing that it is continuous throughout and can have no communication except by the aqueduct of Sylvius.

8th. In two cases, we have not been able to find the aqueduct of Sylvius, and if we are not deceived, the cerebral cavities were completely closed.

9th. Nothing in the walls, nor in the liquid effused, indicated inflammation. We consider it a dropsy *pure et simple*."*

Rielliet and Barthéz regard chronic hydrocephalus as a "non-inflammatory effusion into the cranial cavities." They consider the acute form of the disease as "a mere epiphenomenon of tubercular meningitis."

The alteration which the *ependyma* undergoes in chronic hydrocephalus is not always the same. In a case reported by Dr. Dugas, it was found on dissection, that "the inner surface of the *cerebral sac* resembled very closely a healthy mucous coat of the stomach. In this case flakes of a substance of a whitish color, some of which resembled pus, were found at different points. *

In a case which I examined, the whole internal surface of the ventricles was much firmer than natural, and the choroid plexus much enlarged, covered with granulations and very vascular, showing numerous small serous cysts in its substance. The orifice of the duct of Sylvius could not be discovered. When this canal remains pervious in chronic hydrocephalus, the fourth ventricle is dilated, as in the cases related by Klein and others.† In this case, which is reported further on, and which had been

* Gazette Medicale, for 1855, p. 840.

† American Journal of the Medical Sciences, vol. 20, p. 526.

‡ Dict. de Médecine, vol. 15.

treated by injections of iodine, there did not seem to be any lining membrane remaining, or it was so fine and attenuated as to be imperceptible. The fluid in this case seemed to have been secreted by the choroid plexus, and it is probable that it is to this circumstance, which seems unusual, that the failure of the treatment is to be attributed.

3. *Other treatment generally unsuccessful.*

No doubt can exist concerning the generally unsuccessful result of tapping in chronic hydrocephalus. The table published in the *Medical Gazette*, by Dr. Charles West, and republished by Professor Blackman, with additions in the *N. Y. Journal of Medicine* for May, 1854, seems to show that of sixty-nine cases in which it has been used, in nineteen the patients survived for four months. This is no doubt a much more favorable result than would be presented could all the cases which have been operated upon be collected, and it would be by no means difficult to add cases and authorities adverse to the practice. Still as a sole resort in a generally hopeless disease its performance is justifiable.

There can, however, be no doubt that tapping does sometimes effect a cure. Sanc Vosa, Halibrouck, Syme, Chassaignac, Adams, Bedor, Graefe, Crampton, Monod, Conquest and others, have reported cases of the kind; and if we admit that in some of these the cure may not have been perfect and permanent, this cannot reasonably be presumed to have been the case in regard to all. The operations by puncture show that while the practice is insufficient, the disease is not in its nature incurable.

The table of Dr. West, however carefully examined, throws but little light on the question of tapping. In most of the cases neither the appearance of the lining membrane of the ventricles, nor the color and consistence of the fluid, points essential to the correct understanding of the disease, is given. In two of the cases reported cured, it is stated that the fluid was clear and limpid at the first puncture, and became afterwards thicker and turbid, indicating that it was the inflammation excited in the lining membrane of the ventricles, and not the mere discharge of fluid, which effected a cure.

It is also noticeable that the cases in which punctures were

made with the couching needle, and in which but a small quantity of fluid was evacuated, resulted more favorably than those in which a trochar was employed. Græfe and Crampton both used fine needles with success.

Compression.

It is probable that a tabular view of the cases treated by compression would present a more favorable result than tapping. It has generally been resorted to in the earlier stages of the disease, and in the mildest form of it, and can at best be regarded only as a palliative.

When we consider the effects of pressure on the cerebral substance, it must be obvious that this treatment can only be applicable to the degree of affording to the thin and imperfectly formed coverings of the brain that power of supporting the brain which they have lost. In many cases, where the bones of the cranium are joined, patients die from the effects of pressure.

The principle of treating hydrocephalus must be the same as that of spina bifida hydrocele and serous cysts. It is beyond the reach of medicine administered by the mouth, and of external applications. Simply removing the fluid by tapping has, as in other dropsies, little tendency to cure it. But the exciting upon the internal surface of the lining membrane of the ventricles a moderate degree of inflammatory action changes the structure of the membrane, and alters the character of the fluid secreted, and, as in hydrocele, must cure the disease.

To effect this result, it is only necessary to excite a very low degree of inflammatory action. I have cured a case of ancient hydrocele by two successive injections of one fluid drachm of a solution of iodine, containing one grain to three grains of iodide of potassium. This was thrown in through the canula of a fine exploring trochar without evacuating the fluid. The patient, a laborer, continued his work during the treatment, and only felt a very slight degree of tenderness in the tumor, which at the end of four weeks was entirely removed. Other examples of the removal of the serous contents of cysts by the same means might be cited. According to the laws of *endosmosis* and *exosmosis*, we are taught that it is in many cases only necessary to change in a slight degree the constitution of a fluid, to cause

it to be absorbed rapidly. How far the same law may be applicable to membranes in the living body it is impossible to say, but there can be no doubt that, that change in structure of tissue, produced by a slight degree of inflammation, is sufficient to permanently affect its action of exhalation and absorption. This, according to the present knowledge, can most safely be effected by injections of iodine. But, here we are met by the objection, that exciting such inflammation is too dangerous. I have already given reasons sufficient for believing that such is not the case. The absence of sensibility, of irritability, of nerves, and red vessels in the *ependyma*, all indicate the contrary. The fact that the fluid in some cases of cure by tapping became fibrinous before absorption commenced, coincides with them. But to confirm these indications, I shall add two cases of idiopathic inflammation of the serous membrane lining the ventricles; one occurring in a healthy state, and resulting fatally; the other occurring during hydrocephalus, and resulting in a cure, in order to demonstrate the very great extent to which inflammatory action so situated may be carried before it proves fatal, and even without proving fatal. The first case is quoted from an article by Riellet, in the *Archives Generales de Medicine* for Dec., 1847:

CASE I. "An intelligent and well developed young girl, aged ten years and one-half, was seized suddenly with an acute headache, with vomiting, fever, and dread of light and sounds. After four days she had an attack of convulsions. The seventh day there was some difficulty of hearing. The vomiting, pain, and convulsions continued. The twenty-first day there was complete deafness. The fifty-second day the intelligence diminished, and the convulsions were less frequent and severe.

"The patient died at the end of four months, from a renewed attack of convulsions.

"The principal appearances found on dissection were the presence of ten ounces of perfectly limpid serum in the lateral ventricles, which coagulated 'like the white of an egg,' on the application of heat.

"The ventricular membrane, throughout its entire extent, offered a gelatinous appearance, was a *millimetre* in thickness

resembled the mucous coat of the stomach where affected with the commencement of gelatinous softening; but far from being softened, this was more consistent than natural, and could be detached throughout its whole extent. The cerebral substance was throughout of good consistence, not at all injected."

In this case, the most acute inflammation of the ventricular membrane, continued for four months, had produced no organic disease not consistent with life, if the fluid had been drawn off, and it is not a little singular that tapping should not be more frequently thought of in the acute form of the disease, in which it seems more urgently indicated than in the chronic.

CASE 2.—Dr. Conquest, in April, 1829 or 1830, published a case of tapping in hydrocephalus:—

"This child, a girl of about two years of age, had several signs of hydrocephalus, from a date soon after birth, and for many months past, the head gradually increased until it acquired an enormous size. The forehead was unusually broad, and the anterior fontanelle unusually large. The pupils were permanently dilated. The child slept almost constantly, and frequently had two or three frightful convulsions during the day and night."

Dr. Conquest operated, introducing the trochar into the right lateral ventricle, an ounce and a half of bloody serum, mixed with portions of cerebrum, escaped. The fluid was allowed to escape stillicidium, and within forty-eight hours about two pints and a half flowed out of the opening.

Some symptoms of inflammation of the brain followed, which required leeching.

"When this interesting child was exhibited to the class on Saturday evening, every one was struck with the improvement of its appearance, and by the intelligence and cheerfulness of its countenance. Dr. C. stated, that he considered it perfectly well."*

In this case, acute inflammation supervened upon chronic disease of the ventricular membrane, and was carried to the extent of producing softening, if not gangrene of the brain. Yet

* American Journal for 1830, p. 515, from London Medical Gazette.

we see that a timely evacuation of the serum of the ventricles was followed by a cure.

I say cure, for although some have denied the possibility of such a result in hydrocephalus, yet it can scarcely be doubted, that in this case the cure was as perfect as is often obtained in acute diseases, when some traces of the morbid condition remain through life.

If it be objected that this is an exceptional case, I reply, that such a degree of inflammation is by no means contemplated as a part of the treatment of hydrocephalus. It is only adduced as evidence of the extent to which inflammation of the ventricular lining may be carried in hydrocephalus without permanently injurious effects.

4. *Hydrocephalus treated by injection of iodine.*

CASE 1.—Dr. Tournesko, surgeon of the Civil Hospital of Koltza, Bucharest, has recently communicated to the *Gazette des Hopitaux* a case of hydrocephalus, treated by injection of the tincture of iodine.

The subject was a child, two months old, and the head measured about twenty inches in circumference. At the first puncture, eleven ounces of serum were drawn. This was replaced by effusion in twenty-four hours. Another puncture was made the second day, and twenty-four ounces of fluid drawn off. This time the tincture of iodine was injected (twelve *grammes* of tr. of iodine in twenty-four *grammes* distilled water), of which one-eighth part was allowed to flow out. The quantity inserted contained, according to our calculation, about sixteen grains of iodine and three teaspoonsful of alcohol.

At the moment of the injection, the child turned pale and cried several times. The following day he had fever, for which calomel was prescribed.

Twenty days after the operation, the head was of the natural size, and the child was in good health. Thirty-five days after the operation, the child continued in the same satisfactory state.

The following are the details of the operation:

1. A large-sized trochar was used.
2. It was carried to the depth of about two inches.

3. The puncture was made in the coronal suture, at the side (as being the point nearest the ventricles), and at an angle of forty-five degrees with the horizon.

CASE 2.—Case treated by Dr. Brainard, from *N. W. Medical Journal*, 1850.

Sept. 20, 1849. Saw a female child of Mr. R. aged 4 days, affected with cleft spine and hydrocephalus.

The cleft of the spine was situated at the lower part of the lumbar region; was about 3 inches in length and $1\frac{1}{2}$ in breadth; the abdomen was prominent, particularly on each side, the divisions of the spinal column movable, showing that the want of union was not confined to the processes, but extended to the bodies of the vertebræ.

There was a fluctuating tumor situated over the fissure, about three-fourths of an inch above the surface of the surrounding skin. Its covering was then of a blueish color, semi-transparent, and seemed composed of the thin membranes of the spinal cord, and the cuticle alone. Indeed, the latter was wanting over a considerable surface, where an ulceration of the size of a shilling existed.

The head was of large size, measuring 19 inches around the frontal and parietal protuberances. The upper part of the parietal and occipital bones was wanting, and the head bulged out into a very irregular, tense, and perfectly elastic sac. The other bones were imperfectly ossified and separated. The head was hot, covered with large veins, and increased rapidly in size. The right foot was affected with a talipes varus, and the movement of the lower extremities was feeble.

The urine dribbled away, and excoriated the skin extensively.

Applications of nit. arg., in solution, were directed for the ulcerated spot, until it was nearly healed. Cold water was applied to the head to keep down the heat.

Oct. 9, at $12\frac{1}{2}$ o'clock, the treatment was commenced as follows:

A very minute puncture was made with the point of the lancet, through the skin, half an inch below the tumor of the back, and a small sized exploring trochar passed from it obliquely upward into the sac. Without allowing the escape of more

than a few drops of fluid, f. dr. ss. of a solution of iodine, of the following strength, was injected: iodine, gr. j., iod. pot. gr. ij.; aq. dist. f. oz. j.; making 1-16 gr. of iodine and $\frac{1}{8}$ gr. of hyd. potas. in the injection. The puncture and surface of the tumor were then covered with a solution of gun cotton. No pain was felt at the moment of puncturing the skin, and from the application of the liquid plaster. I was assisted by Professors Evans and Herrick, and Dr. Meek, editor of the *N. W. Journal of Medicine*.

10th. 12 o'clock M. Found the child had been restless from the time of the operation until 6 o'clock P.M., when it became quiet; seems well. Veins of head less turgid than since its birth.

11th. Child appears well; head less tense. Applied adhesive liquid to tumor and continued cold water to head.

12th. Head tense; increased in size $\frac{1}{2}$ inch. Tumor of back flaccid, flattened and slightly inflamed.

13th. Tumor of back diminishing; head increasing rapidly. Ulceration of back cicatrized.

In consequence of the rapid increase in the size of the head, I determined to inject it without waiting, as I had intended to do, for the cure of the back to be completed. This was accordingly done with the assistance of Drs. Evans and Rutter. The point chosen was that most projecting on the summit and left side of the head.

About $\frac{1}{2}$ dr. of fluid was allowed to escape. The same quantity of the solution (of the strength before given) injected, and the puncture covered with adhesive solution. Child seemed to suffer no pain except from puncture and application of ether upon the point.

14th, 15th, 16th. Head hotter, and increased in size; appears well.

16th; 8 o'clock P. M. The puncture of head commenced leaking, which was stopped by Dr. Herrick with collodion.

17th, at 4 o'clock A. M., leaked again, and was stopped by a compress and bandage. Head flaccid; child irritable, sleepless, and starting.

19th. Head filling. To avoid danger of leaking from for-

mer. puncture, $1\frac{1}{2}$ oz. of fluid was drawn off by a very oblique puncture on the right side.

20th. Child restless; affected with apthæ. Head hot.

21st. Child appears well; head natural.

31st. Head, which was stationary, has commenced to increase; measures 20 inches in circumference. It was injected at 5 o'clock P. M., with f. dr. jss. of the solution. The puncture was made obliquely upon the summit of the right side.

Nov. 1st. For 24 hours no effect was perceptible. At the end of this time, it commenced to be restless and sleepless, twitching often, and declined the breast. Evaporating lotions were applied to the head; a cathartic of castor oil administered.

Nov. 2d. The child was much relieved, and took the breast. Head stationary; the whole of the back part of it covered with a red blush, which had gradually spread from the puncture.

Nov. 3d. Child restless. Head hot and red at the back part.

Nov. 4th. Heat less; redness almost gone; head diminished in circumference, $\frac{1}{4}$ inch in 24 hours.

5th. Child restless; head flaccid, diminished in size. Applied a band of India rubber, 4 inches broad, about it, to compress it.

6th. Has slept well from the time of application of band. Head diminishing.

7th. Continues to diminish. India rubber exchanged for a band of cotton.

From 7th to 24th, pressure continued; little change in head; remains stationary, at about 19 inches in circumference.

24th. Threw in $\frac{1}{4}$ of a dr. of solution; no effect.

Dec. 2d. Injected f. dr. jss. of solution. Head increasing; no effect.

15th. Head soft; diminished in size $\frac{1}{2}$ inch in 24 hours.

At the first injection, but little fluid was allowed to escape. It was transparent, and showed, under the microscope, some epithelium cells. At the last operation, about one oz. was

withdrawn; it was of a straw color; gave a slight cloud on application of heat, and was gelatinous on evaporation.

18th. Injected f. dr. jss. of the following solution: iodine, iij.; iod. pot., gr. vj.; aq. dist., oz. j.; no effect.

30th. Threw in f. dr. jss. of the following solution: iodine, grs. ivss.; iod. pot. gr. xij.; aq. dist. oz. j.; no effect.

1850; Jan. 5th. Head is increasing rapidly; measures 22 inches in circumference.

Injected gr. ij. iodine; grs. v. iod. pot. in f. dr. ij. dist. water. The fluid drawn off this time amounted to oz. iij.; was clear: exhibited, on standing, a filamentous appearance, like an exceedingly slight coagulum, and yielded, with starch, no trace of iodine.

9th. Child was restless, and head slightly hotter than usual, after the last injection.

12th. Child well; head flaccid. Drew off oz. xij. fluid, and injected the same quantity as before of the solution.

15th. Child slightly restless after injection, but soon became quiet, and exhibited no effect except a free secretion of tears and mucus from the eyes.

18th. Injected gr. iv. iodine, and iod. pot., gr. x. in f. dr. vj. water.

19th. No effect except the secretions from the eyes.

22d. Child in perfect health; appears unusually bright, and is very active, moving its hands actively, and its feet slightly. Tumor of back reduced to a level with the surrounding skin. Urine retained naturally, and the excoriations healed.

26th. Drew off oz. xvj. fluid, and injected gr. viij. iodine, and gr. xxiv. iod. pot., in water, f. oz. j.

Scarcely any effect was produced by this injection. The head was stationary for about four days after the injection, and then gradually increased. Compression by adhesive straps, bandages and gun cotton were tried perseveringly, without effect. Head 24 inches in circumference.

Feb. 4th. Drew off f. oz. xxiv., and injected gr. xij. iodine and gr. xxxvj. iod. pot. in oz. j. water. No effect was produced at the moment, but in the evening, 12 hours after the injection,

there was twitching of the limbs and vomiting. The matter vomited colored the starched dress of the child of a dark color. The dress, diapers, bed, and handkerchief used on it were impregnated with the iodine odor for about three days after the injection, but the most careful tests, by Prof. Blaney, with starch, after adding chlorine water, never detected any trace of iodine in the fluid drawn from the head.

Feb. 19. For several days the head remained stationary, but has commenced to enlarge. Injected gr. x. iodine, with gr. xxx. iod. pot., after evacuating oz. xxiv. fluid. Head in this and other cases, when much fluid was drawn, supported with adhesive straps and bandages.

Effect the same as in the last instance, cold lotion was applied to the head, and purge of castor oil given.

March 5th. Head increasing. Drew off xxiv. oz. fluid, and injected the same quantity as before. Applied a laced cap to the head.

The symptoms resulting from this injection were but slight.

March 9. Drew off vj. oz. fluid, and repeated the same injection. This quantity reduced the head to the same size as before, by which it appears that $1\frac{1}{2}$ oz. serum formed daily.

REMARKS.—During the treatment for the last two months, the child has grown rapidly; the face, which was triangular and thin, has filled up, is fat and firm; the skin, from being pale, is become ruddy; the limbs are firm, and the skin of the head, from having been glistening, smooth, with but little hair, and large veins ramifying over it, is covered with a thick growth of hair, and appears very natural, the bones of the opposite sides touch, and the head is 20 inches in circumference; the bones being thick and firm. The tumor of back is entirely obliterated, and the skin in its former position becoming firm and of natural color.

10th. No effect; head paler than natural.

11th, 12th. Child restless.

15th. Is in good health. Drew off f. oz. vi., and injected gr. vij. iodine, with gr. xxj. iod. pot. in oz. j. of water.

20th. No effect from last injection; used gr. x. iodine, with

thrice the quantity iod. pot. in the oz. water. Fluid drawn, oz. vj. A few bubbles of air probably passed in with the injection.

21st. Has had twitching. Head pale.

27th. Drew off the same quantity, and injected as before.

28th. Little effect; dress colored by matters vomited.

April 3d. Repeated the injection with gr. xij. iodine, and gr. xxxvj. iod. pot. to the f. oz. of water. It produced vomiting and purging of matters which colored the clothing. It is probable the materials used were not pure, as they were not procured from the usual shop, and had a different effect from any former injection. Since the first commencement of the treatment, it had been noticed that immediately after tapping, or while the head was diminishing in size, the child was wakeful, nervous, and affected with muscular twitching, on the slightest cause, while, on the contrary, it was quiet and had a tendency to sleep, when the head was full and increasing in size. Recently this tendency to somnolence has greatly increased—so much so that it could be at times scarcely roused. It was evident the disease was approaching its natural termination.

April 11. Threw in gr. ix. iodine, with gr. xxvij. iod. pot. in f. oz. j. dist. water, after withdrawing oz. vj. liquid. Slight twitching of the limbs the next day.

April 17. Repeated the same quantity, after withdrawing f. oz. viij. liquid.

After about 12 hours had elapsed, the child was affected with severe and dangerous symptoms, twitching, vomiting of matters which colored the clothing dark. These symptoms continued 48 hours, and were the worst the child had experienced since the commencement of the treatment.

The analogy supposed to exist between spina bifida and hydrocephalus had at first given rise to the expectation that the treatment of the latter disease by injections of iodine, would be found efficient in its cure. This hope, after a fair trial, had in this case been abandoned, but the treatment was still continued, in the hope that its obvious effect in retarding the increase of the

head might enable the bones to close at a size which would allow of health and intelligence in the child.

The gradually increasing severity of the symptoms, following each injection, and the tendency to somnolence and diminished activity and intelligence of the child, suggested the propriety of suspending their use.

Accordingly, on the 2d May, I drew off viij. oz. fluid, without any injection, the tension of the head and somnolence rendering such relief necessary. For two or three days, this afforded relief, but fluid accumulated with unusual rapidity, so much so that during my absence, in attendance on the Medical Convention, at Cincinnati, the head attained a great size, the child became somnolent, and Professor Herrick was called on to tap the head, which he did, May 12th, to the extent of vj. oz., with but partial relief.

It was in this condition that the head was found on my return, May 14. It was greatly increased in size, hotter than usual, covered with large, branching veins, and the child somnolent.

Notwithstanding, the approaching fatal result of the case was apparent, yet the rapid aggravation of the symptoms under the treatment by tapping alone, as compared with that by tapping and injection, induced us to resort again to the latter, as a palliation; accordingly, on the 15th, I threw in gr. vj. iodine, with thrice that quantity iod. pot. in oz. j. water. The amount of fluid previously drawn off was oz. xij.

No perceptible effect was produced 12½ hours, when the child commenced vomiting and purging, fell into convulsions and died immediately.

Examination after Death.—The back, in the situation of the former tumor, was found smooth, firm, with but slight traces of disease. A cure of the spina bifida had evidently been effected.

On laying open the cranium, two-and-a-half pints of clear fluid was discharged. This was contained, principally, in the enlarged ventricles, there being but a thin layer on the surface. The arachnoid membrane was in a perfectly natural state, thin, polished, delicate; without any thickening or opacity. At the

point where all the punctures but two had been made, the two layers of the arachnoid were closely adherent to each other; so that all the injections had been made into the ventricles, and not, as I had thought probable, into the sac of the arachnoid. The deception, in this respect, arose from the extreme tenuity of the ventricular walls, which over the upper part of the cerebrum were scarcely a line in thickness, and at points composed of the investing membranes of the organ, the cerebral substance having entirely given way, so that the canula could be easily felt, when in the ventricle, by the finger on the outside of the head.

Descending to the lower surface of the cerebrum, the walls of the cavity became thicker. The optic thalami, and corpora striata, although separated from each other, were entire, and, with the exception of flattening, in their natural state. The corpora quadrigemina, medulla oblongata, and cerebellum were well developed and healthy.

The internal surface of the immense cavity, was composed of white nervous tissue, firm and smooth, except at points where there were slight elevations, without any sign of lymph effused or unusual vascularity. Indeed, the whole substance of brain and its membranes, seemed less vascular than natural. The corpus callosum, extremely thin but not divided, formed the roof of the cavity. The *iter ad infundibulum* was dilated, but the aqueduct of Sylvius seemed not pervious without pressure. On the floor of the cavity lay the choroid plexus, hypertrophied, and resembling a congeries of mucous follicles, rather than the natural condition of the membrane.

Between the cerebrum and cerebellum was found a cyst of the size of a small plum, containing a serous fluid. On opening this, there was found a small surface, resembling entirely that of the choroid plexus in the large cavity.

This circumstance, together with the perfectly healthy appearance of the arachnoid, induced Professor Herrick, who assisted me in this examination, to believe that the common opinion, that *internal* chronic hydrocephalus originates from the arachnoid membrane, in so far, at least, as this case is concerned, is erroneous. He thinks the diseased choroid plexus was the

source of the fluid. On examining that tissue with the microscope, his opinion (in which Professor Davis concurred) was confirmed, for he found in the tissue a great number of cells, arranged in groups, or in form of racemes attached to a common foot-stalk.

I am under the deepest obligation to Professor Herrick, for assistance during the treatment of this case. I was also assisted by Professors Evans, Blaney, Davis, Dr. David Rutter, and several other medical friends.

Notwithstanding the general preference in Europe of tincture iodine to the solution, and the success which appears to have followed its use in the hands of Dr. Tournesko, I adhere to my preference of Lugol's solution. This preference is founded upon what I regard as an established fact, that alcohol thrown into serous cavities is liable to produce violent inflammation, and upon the results of my own experience. I have used the solution with success in a very large number of cases of hydrocele, several of spina bifida, in empyema, in serous cysts, in dilated lymphatics, in ascites, in ovarian cyst. I do not use it at present either in hydrarthrosis or in ascites, but this does not arise from any accident which has happened with it in my own practice, but from the unfavorable results which are said to have followed the use of the tincture of iodine in these cases.

I regard chronic hydrocephalus as the most favorable form of dropsy for treatment by injections of iodine after hydrocele. The reasons are, that it is contained in a cyst, the internal surface of which is destitute of nerves, and consequently without sensibility, destitute in many cases of red vessels, and the irritation of which produces neither sensation nor spasm. In ascites, the surface of the peritoneum exposed to the action of a solution injected is so great, that danger may be apprehended. In hydrarthrosis the fluid effused is synovial, and the case is, therefore, less favorable for injections than serous cysts. There is a difficulty, however, in treating hydrocephalus not met with in other dropsies, which requires to be considered. It is, that the bones of the cranium to a certain extent prevent the walls of the sac from being brought together, and therefore prevent the discharge of the fluid injected. Now, this does not

by any means contra indicate the performance of the operation. In hydrocele, and in many other cases, it is even deemed desirable to leave behind a certain part of the fluid injected. If the fluid cannot be withdrawn, a smaller quantity must be used. The degree of inflammation desired is not by any means high. Still I am of the opinion, that it will be found difficult to inject a sufficient quantity of iodine into the ventricles of the brain, to excite the requisite action of their surface, without leaving so much of it as may constitute an overdose when absorbed and carried by the circulation into the different organs.

The plan which I should recommend at present to avoid this difficulty is this: 1, Use a trochar of a certain size, as that employed for hydrocele; 2, compress the head, and draw off as much fluid as practicable; 3, inject a solution of iodine of such strength that, when mixed with the fluid remaining in the ventricles, it will still be of the strength of $\frac{1}{2}$ gr. of iodine to the oz. of liquid; 4, throw this through a gum elastic tube, carried through the canula into the ventricles; 5, inject the fluid first drawn off through the same tube to expel the solution.

If distilled water at the temperature of the body be found as harmless as the serum, which I see no reason to doubt, I should advise to inject it so as to expel all the solution introduced. In this case the solution might be made much stronger. If distilled water should be found objectionable, it is probable that an artificial serum might be used instead of it.

It might be expected, before concluding, that I should lay down some rules for selecting the cases which are proper for operation. It is obvious that in case of deficiency of the cerebrum an operation would be useless. It is equally plain, that where the disease has advanced to its latest stage, when there are frequent convulsions, or great derangement of the functions necessary to life, an operation would not be advisable. Beyond this I am not prepared to go at present, not having data upon which to base any rules which it might seem desirable to lay down.

I cannot but feel the need of sustaining my recommendation of this method of treatment by such authorities as may be favorable to it. M. Monod, in a report made to the Society of Sur-

gery of Paris, March 16, 1854, on the subject of the case herein given, says, "it is to be regretted, in view of the innocence of the injections made by M. Brainard, that he had not tried them stronger and more abundantly;" and he adds, "this case, notwithstanding the want of success of the treatment, is well calculated to encourage new attempts in this direction."* It is needless to say, that I have shared the regret of M. Monod in this respect, but at the same time did not think it prudent to push the treatment further.

M. Boinet presented to the Society of Surgery, March 18, 1857, a report on the case of M. Tournesko, Surgeon of the Civil Hospital of Koltza, at Bucharest (Wallachia). The conclusion of this report is in these terms, "if the case of Mr. Brainard is not an example of complete cure, it proves at least with that of M. Tournesko, the innocence of iodine injections, which would have had, perhaps, a better success, if the important alterations of structure revealed at the autopsy had not existed. These two cases, and that of our *confrere* of Bucharest particularly, are not the less of a nature to encourage the use of these iodine injections in the cases where dropsy of the arachnoid does not extend to the ventricles of the brain, and where this organ is properly developed." "We think, then, that we may conclude with these facts only that iodine injections used with the necessary precautions are not only innocent, but efficacious, in the treatment of certain forms of hydrocephalus, when they are not accompanied with alterations of the cephalic substance." These reports did not, perhaps, receive the formal sanction of the learned society in all their details. No objections were, however, made, and the wise and conservative character of this, as of all similar bodies in France, where opinions are often taken as a warrant for practical action, is a guarantee that nothing rash or hasty would receive even an indirect sanction.

The individual authority of the reporters themselves is not trifling in this matter. Mr. Monod is a surgeon of Paris, of high standing, who has devoted especial attention to the subject

* *Gazette des Hopitaux* for 1854, p. 147.

of iodine injections, and treated by their means many difficult cases, some even of ovarian cyst, with success. M. Boinet is the distinguished author of an excellent work on *Iodothérapie* (therapeutical uses of iodine), which, although it is well known, is less so than it deserves to be, particularly in this country. He is not only thoroughly acquainted with the subject, but is a prudent and judicious surgeon of extensive experience.

This subject is brought forward at the present time for the purpose of inviting attention of surgeons to the advantages of this method of treating a disease generally incurable by other means. Many arguments in its favor have been omitted for fear of being too prolix. No other cases than those herein given are known to me in which this treatment has been used. It has never proved injurious. It is, therefore, hoped that the facts herein presented may be sufficiently conclusive to induce a trial of this plan of treatment first proposed, and put in practice in this country.

ARTICLE II.

CASES ILLUSTRATING THE PRACTICAL USE OF THE OPHTHALMOSCOPE, AS A MEANS OF DIAGNOSIS, IN CERTAIN DISEASES OF THE EYE.

BY E. L. HOLMES, M.D., OF CHICAGO, ILL.

[Continued from page 141.]

Case III. Incipient Cataract.—A gentleman, who had been struck upon the right eye with a riding whip, came to me some time after the injury, for examination, stating that, since the blow, the distinctness of vision in this eye had been much diminished, and that any continued use of the eyes was attended with great discomfort. The general aspect of the eye was normal, with the exception of a slight dilatation of the pupil, which had existed from the first. No belladonna had been applied to the eye, as I was informed by the patient.

An examination with the ophthalmoscope, disclosed upon the posterior surface of the lens a dark line, extending from near the centre downwards, and inwards to the periphery. This line

resembles one of the radii, which are usually found in soft cataracts, as delineated in most works upon diseases of the eye. Usually there are several radii observed in the affected lens, and it is quite rare that even in incipient cataract, only a single line of opacity is found. The transparent media of the eye in other respects are normal.

It is not my object to discuss the effects of the blow, but simply to describe the condition of the eye as I found it. There are many reasons for believing that the cataract in this case had existed for a longer period than the patient imagined, and that the blow called his attention to the fact that vision of this eye was imperfect. Cases are not altogether uncommon where patients have suddenly discovered that vision of one eye was wholly lost, upon making an attempt to look with one eye closed.

Case IV. Photopsia.—Patient is an Irish woman, aged forty years, of full habit, and addicted to the use of whisky. For a long time she has been troubled with occasional ringing in the right ear, and with symptoms of congestion of the nervous apparatus of both eyes, being annoyed by brilliant flashes of different colored lights; appearing in the field of vision, sometimes in the form of spheres, and at others without any defined figure. Patient often imagines she sees dark irregular floccula, resembling tufts of black cotton floating before the eyes. These appearances are all entirely *subjective*, since they seem to float before the patient's eyes in various directions independent of the motions of the globes. Floating bodies in a liquified vitreous humor, usually take a sudden motion upwards; on turning the globes quickly upwards, again to sink to their former position. Bodies fixed in a position directly behind the pupil always appear, as far as I know, in the same relative point in the field of vision.

There is scarcely any modification in the condition of the iris. Vision is still perfect, except during the paroxysms of photopsia, when patient finds difficulty in obtaining a distinct image of distant objects. The conjunctiva, as also all the other membranes visible to the eye, are healthy and free from congestion.

The retina of each eye, especially around the entrance of the optic nerve, presents, when viewed through the ophthalmoscope, an appearance of congestion, this membrane being of a darker red, and the papilla of the nerve being less well defined than natural. In all probability, these appearances are sufficient to account for the subjective symptoms which annoy the patient, since similar changes in the color of the retina are often accompanied with photopsia.

In the right eye, moreover, which gives the patient the most trouble, there is a commencement of the process described in case number two, there being a slight deposition of pigment matter in the external and anterior portion of the concavity of the eye.

I am disposed to believe that this patient might be relieved of her symptoms in a measure, by suitable treatment. She is, however, in a miserable condition, exposing herself by every kind of irregularity to an increase of the disease, and neglecting to follow any course of treatment.

Case V. Encephaloid Disease of the Retina.—Some time since, I examined a boy, aged six years, to all appearance enjoying perfect health, who, for two or three months, had complained of increasing disturbance of vision in the left eye, the other being unaffected. Except a considerable dilatation of the pupil, the eye appeared in all respects normal. The patient could not, however, distinguish objects in the least with this eye, and was scarcely conscious of even bright light falling directly into the pupil. At this stage of the disease, I think, no one could have made a satisfactory diagnosis without the assistance of the ophthalmoscope. With it the posterior portion of the ocular cavity could be seen, beginning to present the peculiar appearance of encaphaloid disease of the eye (*retina?*) which needs only to be seen once to be remembered. The diseased portion embraced about a quarter of the retina around the optic nerve, which it also involved. The peculiar, brilliant light copper-colored tint was already somewhat developed, and vessels were observed running in beautiful branches over the carious substance, which was still very thin, having as yet scarcely invaded the cavity of the eye.

Several readers of the *Journal* will recollect an example of this fearful disease, which I examined with them a few months since, in the case of an infant, in which the disease was so far developed in both eyes, that there could be no doubt, as regards diagnosis, even with the unassisted eye. In the right eye, the disease had wholly filled the cavity of the eye behind the iris.

Unfortunately, the only benefit gained by the use of the ophthalmoscope in the case just reported, was simply the diagnosis, which, with this instrument, could have been made even earlier; and even the sad revelation itself might, under the circumstances, prove of advantage to the sufferer, since he would be saved the trouble and pain of undergoing the infliction of the usual treatment for *amaurosis*, by purging, salivation, blistering, and cupping, which could only torment the patient without affecting the disease.

To me these three cases are of great interest, in illustrating the practical use of the ophthalmoscope in detecting the commencement of processes, which would remain wholly concealed from view without it.

[Concluded in next number.]

ARTICLE III.

CASE OF UTERINE POLYPUS.

BY DR. JAMES CODY, OF WATERTOWN, WIS.

Widow C., aged 40 years, mother of four children, the youngest of which is now eight eight years old. She is of bilious nervous temperament; has always enjoyed uninterrupted good health until three years since, when the present malady made its appearance. I was called in haste to see her on the 28th of February last. On reaching the address, I learned the following history of the case: Three years since, and without any apparent cause, first experienced excessive menstruation; a year subsequent, it amounted to menorrhagia, or rather at that time it was pronounced menorrhagia; medical aid was sought at this time, and treatment instituted, and carried out, but no relief followed; the uterine hemorrhage was constant, and during the

menstrual period, at various times, truly frightful and alarming, complete syncope coming on at short intervals. Present condition: pulse hardly perceptible at the wrist, and so quick as not to be counted; fainting and vomiting occurring very frequent; hands and feet cold; her countenance and general surface are ex-sanguine. Complains of all the cerebral symptoms consequent on hemorrhage. The legs and ankles are œdematous, and have been so for some time past. She is now flowing profusely. Digital compression of the abdominal aorta was resorted to for a few minutes, which checked the hemorrhage, and partial reaction took place. Arot. spirits ammonia, brandy; cold water dashed on the face; mustard poultice applied between the shoulders; heat applied to extremities. In a short time complete reaction took place. A vaginal examination now revealed a large pyriform polypus descend through the os uteri into the vagina and resting on the perineum, nearly, or quite filling the vaginal canal. The existence of such a disease was not dreamed of by the patient, her medical attendant, or her friends. The examination started the flowing again. The vagina was now plugged (as the patient was very weak, and could not bear the loss of any more blood; in fact, I thought she would surely die, the system became so bloodless), the T. bandage to retain it in place. Acet. plumbi. et opii. given in small and frequent doses. As she rallied up, nourishment and mild tonics given.

On March 3d, the patient feeling quite comfortable, the polypus was ligated; the hemorrhage, which for two days had been but slight, now completely ceased for nine hours, when it broke out again to an alarming degree; the abdominal aorta was again compressed with the fingers for a short time; stimulants were given, also the tampon was used during the night; she had frequent fainting spells and vomiting, but the hemorrhage was arrested.

Friday, 4th, 6 A. M.—Pulse, 130, small—tenetum aurem. No pain. Expresses herself as feeling quite well; some thirst; has vomited none since 3 o'clock; no fainting; extremities warm; flows a very little. The tampon was removed at 2 o'clock on account of pain. 1 P. M.—Feels comfortable, no pain; expresses

herself as feeling better than for a month previous. The bladder was evacuated by catheter. The ligature was tightened half an inch or more; produced but slight pain.

9 P.M.—Reports herself as feeling very comfortable. Pulse 120, of good character. No flowing.

Saturday, 5th, 9 A.M.—Reports herself as feeling comfortable. Pulse 120. Rested well during the night.

Saturday, 5th, 1 P.M.—Ligature tightened; caused but slight and indistinct pain. Injected the vagina with soap suds.

9 P.M.—Has spent a good day.

Sunday, 6th, 9 A.M.—Reports as feeling better and stronger than for four months previous. Rested well during the night. Appetite good. Pulse 112. No dejection for three days. Ordered mag. calc. and seidlitz powders.

2 P.M.—Tightened ligature. Complained of slight pain in back, and in tumor.

Monday, 7th, 9 A.M.—Rested well during the night. Is quite comfortable. Pulse 116. No dejection. Is to have enema. Appetite good.

1 P.M.—Tightened ligature. Injected vagina with soap suds.

Tuesday, 8th, 1 P.M.—Rested well last night. Feels well to-day. Cathartic operated three times. Appetite good. Pulse 116. Tightened ligature. Injected vagina with soap suds.

Wednesday, 9th, 5 A.M.—Has suffered very much for two hours, in consequence of retention of urine. Pulse 120. Tenderness of abdomen. Urine drawn off. Abdomen fomented. Anodyne administered.

Wednesday, 9th, 2 P.M.—Feels better. No tenderness of abdomen. Tightened ligature. Complained of pain in back, also great soreness of vagina. Injected vagina.

9 P.M.—Retention of urine, causing considerable irritation of the system, and pain in the abdomen. Pulse 130. Used catheter; ordered fomentation to abdomen; spirits nit. dulc. et tr. opii., 60; tr. veratrum viride.

Thursday, 10th, 9 A.M.—Rested well during night. Pulse 120. Retention of urine. Used the catheter. On tightening the ligature and making slight traction, the canula came away.

The polypus was brought away pretty readily, although, from its size, some force and manipulation was necessary for its removal.

Friday, 11th, 9 A.M.—Reports herself as well.

Saturday, 12th, 9 A.M.—Is doing well.

Sunday, 13th, 9 A.M.—Complains this morning of headache and sickness at the stomach. Vomited some green matters. Ordered mag. calc. et rhei.

Monday, 14th.—Feels better this morning. Medicine operated well. Feels able to be up, and wishes to do so; consequently I permitted her to get up.

Tuesday, 15th, 9 A.M.—Is doing well. Was up yesterday.

Wednesday, 16th, 9 A.M.—Continues improving; up all day, yesterday. Appetite good. No vaginal secretion whatever. No bearing down. No pain in back. Head feels natural. No symptom whatever of uterine derangement. Says she feels as well as at sixteen years of age. The œdema of the legs and ankles is disappearing fast. The lips and cheeks are assuming their natural color.

April 2d.—To-day, I have visited this lady, and the change which has taken place in her system in the course of a fortnight is truly wonderful; comparatively from the verge of the grave to apparent good health. There can be no doubt but much of this lady's suffering and misery might have been ameliorated, or cured by an early examination, and consequently a true diagnosis of the malady; but such was not the case. Three years rolled round, and all that long period, in which the lady lost pounds and pounds of blood, the true condition of things was never dreamed of. The case was supposed to be a case of prolapsus uteri, attended with menorrhagia, and treated for such.

ARTICLE IV.

MARSHALL HALL'S READY METHOD.

BY GEORGE V. EWING, M. D., OF ROCK RUN, ILLINOIS.

DR. N. S. DAVIS :

DEAR SIR,—In visiting your city last December, I did intend to make a request of you, but finding your time to be very precious, I thought best not to intrude upon you at that time. But now, by your permission, I will make the request. It is this, that you will publish in the *Journal*, for the benefit of its numerous readers, the *Ready Method* in Asphyxia, of Sir Marshall Hall, as it appears in the *London Lancet*, vol. i., 1857, page 148.

I am not aware that the method has ever been published in the *Journal*, and, I believe, I never have seen it in any of the medical journals to which I have had access, save the *London Lancet*. Hence it is that I make the request.

The method, aside from its importance in the treatment of drowned persons, possesses superior merits, and may be brought into almost daily operation in obstetrical practice. In my own experience I have had occasion to resort to it in a number of still-born infants, and have been highly gratified with the result in every case; and I am satisfied that some of the cases could not have been resuscitated by any other means.

This may be regarded as one of the great improvements of the day in our noble profession, and the name of its late author will, doubtless, be considered a sufficient guarantee for its superior merits. But permit me to add my testimony in its favor, by reporting a single case from the number of those who have had the benefit of the method in my practice.

September 19th, 1858, I was called in haste to visit Mrs. H., who was in labor with her first child. On my arrival, I found that the membranes had been ruptured and the liquor amnii discharged some time previous to my arrival. Pains were at this time regular, and moderately severe, occurring at intervals of about every ten minutes. Upon making an examination, I found that I had a case of foot presentation to treat. In five

pains after my attendance, the lower extremities and chest were born; after this the pains became very feeble and irregular. As there was great pressure upon the umbilical cord, causing the circulation entirely to cease, I proceeded to terminate delivery immediately; this, however, occupied considerable time, owing to great difficulty in bringing down the arms. The delivery of the head also proved to be very tedious, but by persevering, with all the force that was admissible in the case, delivery was finally accomplished. The time which elapsed from the last motion (which was very feeble) till delivery was terminated, was about thirty minutes.

The child, when born, was, to all appearance, lifeless. The cord was ligated and cut immediately, and as the mother did not require any immediate assistance, I turned my attention to the child to see what could be done. I first cleared its mouth and throat of mucus, which was rather abundant; then applied the method unceasingly for fifteen minutes, at the end of which time I had the pleasure of seeing my little patient give slight evidence of returning animation. I continued the method for twenty minutes longer and respiration was fully established, though the child was very feeble. I then enveloped it in some warm flannels, turned it on its side, and handed it to the nurse, gave the requisite attention to the mother, and in an hour left the house, with directions not to wash and dress the child for at least six hours. On my visit next day, twenty-four hours *post part.*, I found my little patient crying lustily. The child has continued to do well ever since, and at this date may well be considered as a fine specimen of a *sucker*, and the parents exalt the Ready Method of Sir Marshall Hall. Yours, etc.,

GEO. V. EWING, M.D.

ROCK RUN, ILL., March 30th, 1859.

[We republish, with pleasure, Marshall Hall's *Ready Method*, as furnished to the present editor by himself, although it was once inserted in this *Journal*. In so doing we would add, that this method seems to us imperfect in many respects, particularly in what relates to artificial respiration and the restoration of a proper temperature.—Ed.]

THE READY METHOD IN SUSPENDED RESPIRATION FROM
DROWNING, ETC.

By MARSHALL HALL, M.D., F.R.S., OF THE INSTITUTE OF FRANCE, ETC., ETC.

1. Treat the patient *instantly, on the spot, in the open air, exposing the face and chest to the breeze* (except in severe weather).

I.—To Clear the Throat—

2. Place the patient gently on the face, with one *wrist* under the forehead;

[*all fluids and the tongue itself then fall forwards, leaving the entrance into the wind-pipe free.*]

If there be breathing—wait and *watch*; if not, or if it *fail*,—

II.—To Excite Respiration—

3. Turn the patient well and *instantly* on his side, and—

4. Excite the nostrils, the throat, etc., and dash cold water on the face previously rubbed warm.

If there be no success, *lose not a moment*, but *instantly*—

III.—To Imitate Respiration—

5. Replace the patient on his face, *raising* and supporting the chest *well* on a folded coat or other article of dress;

6. Turn the body very *gently on the side and a little beyond*, and then *briskly* on the face, alternately; repeating these measures deliberately, efficiently, and perseveringly *fifteen times* in the minute, occasionally *varying the side*;

[*when the patient reposes on the chest, this cavity is compressed by the weight of the body, and expiration takes place; when he is turned on the side, this pressure is removed, and inspiration occurs.*]

7. When the *prone* position is resumed, *make* equable but efficient *pressure*, with brisk movement, *along the back of the chest*; *removing* it immediately before rotation on the side;

[*the first measure augments the expiration, the second commences inspiration.*]

* * * THE RESULT IS—RESPIRATION;—AND, IF NOT TOO LATE,—LIFE!

IV.—To Induce Circulation and Warmth—

8. Meantime rub the limbs *upwards*, with *firm grasping pressure* and with *energy*, using handkerchiefs, etc.;

[*by this measure the blood is propelled along the veins towards the heart.*]

9. Let the limbs be thus warmed and dried, and then clothed, each bystander supplying a coat, a waistcoat, etc.

10. *Avoid the continuous warm-bath, and the position on or inclined to the back.*

TRANSLATIONS FROM FOREIGN JOURNALS.

RESEARCHES ON THE POSSIBILITY OF TEMPORARILY REANIMATING PERSONS DYING OF DISEASE.

BY DR. E. BROWN-SEQUARD.

Translated by THOMAS BRYAN, M.D., from the *Journal de Physiologie* for Oct., 1868.

For a number of years my researches on the transfusion of blood commenced in 1846, and continued almost without interruption to the present, have given me such results as demonstrated positively, that life could be re-established for a certain time in the mammalia dying of various diseases, and especially peritonitis.

I will only report here some few of the principal facts that I have observed, proposing at a future time to publish them in a more extended memoir on the transfusion of blood.

The experiments which have succeeded, were made upon animals that had ceased to breathe for variable periods (in one case 17 minutes), and in which all trace of voluntary movements and sensibility had disappeared. As to the heart, in the majority of the cases, the sounds were still heard, but the pulse had ceased in the arterial trunks of the extremities, and often even in the carotid; in two cases the beating of the heart appeared to have ceased for several minutes, the last convulsive agony had passed, and the pupil was dilating, or already dilated.

In a word, death was imminent, and no one assuredly could have supposed a spontaneous return to life possible.

The diseases of which these animals died that I am now describing, were for the most part inflammations of the peritoneum and pleura, consecutive to wounds of these membranes, made in experiments on different abdominal viscera and the par vagum nerves, sympathetic or diaphragmatic in the thoracic cavity. In several cases death was due to the extirpation of the suprarenal capsules of the kidneys.

In all these cases, without exception, asphyxia was the immediate cause of death. This is too important a question to be treated incidentally; I shall make it the subject of a series of memoirs on the causes of death in the acute diseases of men and animals. But I ought to say, for the present, that asphyxia in a great number of cases of lesions of the abdominal viscera, in the experiments which were the object of the present work, were, in great part, the consequence of enfeebled movements of the heart, the *primitive* cause of which (not the only cause) was the irritation of the ramifications of the great sympathetic nerve in the abdomen.

Whatever was for the rest the mode of production of the asphyxia, this existed, and, in endeavoring to establish life for a certain time in dying animals, it ought consequently to be taken into account. I was thus conducted to try if pulmonary insufflation would have any influence. In eight or ten cases of dying animals, it had a slight effect, in augmenting the force of the movements of the heart, and one only appeared to become sensible during a few minutes. It is entirely different when employed before the agony, but, as that is not the subject of this article, I will limit myself to stating, that the death agony may be retarded one or two hours by insufflation.

This artificial respiration being insufficient to recall life in animals dying of febrile maladies, I thought if, by employing other means, I could succeed any better, I ought to say to those persons who imagine galvanism to be a useful means in re-establishing life in the asphyxiated, that I have not employed it in a single case, because I knew that the best means of extinguishing the remains of life in the dying individual, was to

submit their nerves and muscles to the exhausting excitative action of galvanism.—(See *Lois des phenomenes dynamiques de l'economie animale*, No. 1, p. 7–10 de ce Journal). I thought of the employment of transfusion of blood, not with the foolish idea of the first transfusors, who believed they could cure grave diseases by substituting fresh blood for the diseased fluid, but with the desire to see the influence of this operation on the scarcely living organism, necessarily condemned to death.

I practiced the operation, sometimes one way and sometimes another, but space being wanting here, I will limit myself, apropos of a case that I now report, to describe the method which has succeeded with me best, and add afterwards a summary indication of some modification of this method.

Exp.—In October, 1851, a dog, in whom I had cut the great sympathetic nerve of the abdomen, was attacked with peritonitis, and after two or three days' sickness, presented the signs of approaching death known to all virisectors. The voluntary movements had already ceased for sometime (I did not note how long), sensibility and reflex movements had everywhere disappeared, even in the eyes; the last respiratory movements, those of the jaws and nostrils, had occurred, and were arrested. The convulsive agony (very feeble in this case) in the members, the face and the eyes, no longer existed, except in a tremor limited to a very small number of muscles. The animal had expelled the contents of the bowels and the urine, the pupil was dilated, and the beating of the heart was no longer felt; the only sign of life which yet persisted, consisted in a vague sound which no longer resembled the heart's action, was heard about eight times in the twelve seconds immediately preceding the transfusion of blood from another dog, made in the following manner: a silver tube, having the form of a T, was fixed by the branch which corresponds to the chapter of the T in the interior of the right carotid of the dying dog, and the free extremity a little curved of the other branch was introduced, and fixed in the left carotid of another dog, whose head and body were firmly attached to a table. Immediately the arterial blood of the healthy dog circulated in the two opposite directions, towards the head and heart, in the carotid of the dying animal.

At the same time the left jugular vein and one of the femoral veins was opened in the dying dog. These two veins at first gave no blood, but the jugular soon, and the femoral twenty or thirty seconds after, commenced to give a little. During the first fifteen seconds, by pressing on the carotid, from which the transfused blood came, I diminished the quantity of this liquid, and after two minutes the operation was ended, and ligatures put on the carotid of the living dog. The jugular vein was left open four or five minutes, during which the beating of the heart commenced to be felt. As fast and proportionally as the blood flowed from the jugular the pulse re-established itself. I then had recourse to insufflation; but, as I only had one assistant, the trouble of the operation prevented my counting the pulse during the first twelve minutes. When it was counted it was very feeble, and beat sixty-four times per minute. Insufflation was continued almost without interruption for half an hour. The cornea was found to be sensitive after the eighth minute of the insufflation. A few minutes later, respiratory efforts showed themselves. Lastly, after twenty minutes, the animal made voluntary movements, and, when insufflation was ceased, respiration occurred very rapidly, but without much force. The return to life, however, was complete as to the existence of all the principal functions of animal and organic life. The animal, although feeble, raised himself up on his fore paws, and wagged his tail when caressed. The pulse, small and feeble, was rapid, (110 to 120 then; several hours after, 80). At last, after remaining four or five hours in this condition, the animal sank anew and died (I was going to say re-died), eleven hours and a half after the transfusion.

I will add a few remarks on the details of this experiment. I did not weigh the dogs submitted to the experiment, and I am ignorant of the quantity of blood transfused, and of what quantity was lost by the dying dog; but I noted that the animal furnishing the blood was small, and that the other was large, so that, taking account of these facts, and the duration of the transfusion, with several other circumstances, I have reason to believe that the dying animal did not receive more blood than he lost. However that may be, subsequent experiments have

shown me that the moribund animal received more blood than he ought, and that it is probable the return to life would have been more rapid if the quantity had been less.

There are in this experiment several causes of the return to life: 1, the passage of the healthy arterial blood in the coronary arteries gave to the muscular fibres of the heart more irritability, and, in consequence, rendered them more capable of obeying the excitations, whatever they may have been, which caused their rhythmic contractions; 2, the passage of the healthy arterial blood in the arteries of the encephalon; 3, the substitution of healthy blood for the blood changed by inflammatory disease, and by the asphyxia which exists in the agony; 4, pulmonary insufflation; 5, disgorgement of the right side of the heart, by the bleeding from the jugular.

Of these five causes of temporary return to life, there is one, the insufflation, of which I have said it was incapable alone, of producing this result. As to the others, I ought to say, they are nearly as inefficacious as the insufflation, when employed alone. Thus, the injection of the red blood towards the heart, by the carotid in dying animals, only succeeds in augmenting for a time the force and rapidity of the movements of this organ, but without re-establishing the circulation. Again, the transfusion of blood by the vein only hastens the complete cessation of the movements of the heart, if made without the right side of the heart being able, by the jugular bleeding, to disembarass itself of the fulness which prevented its contraction in the asphyxia. The same, also the transfusion by the carotid towards the encephalon, only adds to the difficulty of the contractions of the right side of the heart, so that the opening of the jugular alone renders the heart more capable of acting, but only for a very short time.

M. Segolas, a long time ago,* and after him, J. Reid,† Dr. H. Lonsdale,‡ Dr. Cornack,|| and, lastly, Dr. Struthers,§ have

* Journal de la Physiologie de Magendie, vol. iv., 1824, p. 290.

† Physiolog. Anat. and Pathol. Researches, 1848, p. 60-60.

‡ Edinb. Med. and Surg. Journal, 1836, No. 138.

§ Treatise on Creosote, 1839, p. 84.

|| Edinb. Journal, Nov., 1856, p. 241-50.

established in the asphyxia of hanging, that following blows upon the head, or in certain cases of poisoning, that the movements of the heart may be increased, or reproduced, if arrested by bleeding from the jugular vein, by removing by this means the distension of the right cavities of the heart. This excellent means employed alone in the dying animal, where the disease is inflammatory, is absolutely powerless. Even if joined with pulmonary insufflation, I have never succeeded in re-establishing the circulation, and yet less the respiration and the functions of animal life. The only result of the simultaneous employment of these two means has consisted in an augmentation of the movements of the heart. But in those cases where I have employed them, even in the commencement of the agony, or before it was manifested by convulsive movements, I have seen quite often the circulation and respiration re-established during one or two hours, and sometimes even a momentary return of the functions of animal life.

I tried in a number of cases, transfusion by the carotid in the two opposite directions, taking care that the jugular was open, during and a little after the transfusion, and without making insufflation. The return to life was more rare in this class of cases than where insufflation was used, but it took place in several animals which survived two or three hours. I do not know the real proportion of animals reanimated for a time, in the number of trials I made, nor what was the average of this new life of the animals upon which I practiced the transfusion, insufflation and jugular bleeding, because I have not by me all the records of my experiments, but, according to the notes I have before me, in eleven experiments made on dogs, cats, and adult rabbits, nearly all dying of peritonitis, I see that, in four individuals reanimation was complete during two, three and four hours (one dog, one cat and two rabbits), and that three others recovered for one or two hours the circulation, respiration and the reflex faculty, without voluntary motion or sensibility having reappeared, while in four others no result was had, except a slight augmentation of the movements of the heart.

Of late years, having learned from numerous researches on transfusion, that the blood need not be either warm, or possess

its fibrine,* I have renounced the employment of the healthy animal to make the transfusion. After having bled from the jugular and commenced insufflation, I inject at different times, and very slowly, a quantity of blood, a little less than that the animal has lost, I make the injection alternately towards the head and towards the heart, so as to act upon the encephalon, with the view to re-establish respiration, and on the muscular fibres of the heart, to augment their irritability.

Can we draw any conclusions from these experiments, relative to the combined employment of transfusion, insufflation and the jugular bleeding, in men dying of inflammatory or other diseases? It is evident that in the immense majority of cases, it would be useless, if not cruel, to snatch from death for a necessarily short time, an individual of our race, where irreparable material lesions condemned him to death. But there might be cases presented in which it would be important that the intelligence, speech, the senses and voluntary movements should be rendered to the dying. Now, the facts mentioned in this paper, in demonstrating that *all the functions of animal life may be re-established for several hours, in animals in whom the agony has already almost given place to death*, render it extremely probable that the intellectual faculties, the senses, speech, etc., might be re-established for a few hours in individuals who have lost these faculties, and in whom the death agony has commenced.

The success of these various operations would be the more probable, as to practice them we should not wait, as I have done in animals, until the death agony had made considerable progress; and much less, until it had almost entirely ceased.

* I have recently found, however, that the defibrinated blood presents this danger, that in mingling itself with the blood of the animal, into which it is transfused, it sometimes causes its sudden coagulation, but it is probable that, in using a thousandth or fifteen hundredth part of the caustic ammonia to the defibrinated blood, one avoids the only danger known to me in its usage.—See the second part of the analysis of the book of Dr. Richardson, in the present number of this journal.

RESEARCHES ON THE ERECTILE ORGANS OF THE FEMALE.

BY M. CHARLES ROUGET.

Translated by THOMAS BRVAX, M.D., Chicago.

M. CHARLES ROUGET has lately published a somewhat remarkable monograph, entitled, "*Researches on the Erectile Organs of the Female and the Tubo-ovarian Muscular Apparatus, in their relations with Ovulation and Menstruation*;" the results of which researches are as follows:

1. That in the female the uterus presents the structure of an erectile organ, a veritable corpus spongiosum.
2. That to the ovary is also annexed an erectile bulb.
3. That in all classes of the vertebrata, and in particular in all the mammalia, a special muscular apparatus embraces the oviduct and the ovary, and determines their adaptation.
4. That the fascia of the ovario-tubar muscular membranes (*mesoarrium* and *mesometrium*) have with the spongy bodies, and especially with their different sinuses, such relations, that at the moment of contraction the meshes of the network, in the midst of which the venous conduits make their way, contract in all directions, by which these last are necessarily compressed, and the exit of the blood more or less completely prevented.
5. That the contraction of the ovario-tubar muscular apparatus, continuing during the whole period of ovulation, the obstacle to the exit of the blood, and the erection of the spongy body of the uterus and the ovary which results, have the same duration.
6. That menstruation also coinciding, on the other hand, with ovulation, it is natural to consider it as the immediate consequence of the erection of the uterus. A real menstrual hemorrhage does not exist elsewhere but in such organs as present a true erectile structure.
7. That if the sexual excitation can, as it appears probable it may, determine the erection of the uterus and ovary, it is easy by this to account for its influence in bringing together the periods of menstruation and ovulation.—*Journal de la Physiologie.*

CIRCULATION OF THE NERVOUS FLUID.

From the Gazette des Hôpitaux for 1858, page 198.

M. Flourens read a note on the *nervous circulation*, before the Academy of Sciences, March 15, 1858. It is worthy of especial attention, as being probably the *point of departure* for a series of discoveries on the direction of the nervous currents.

"Recurrent Sensibility.—On a recent occasion, I recalled the beautiful experiment of Magendie on recurrent sensibility. If we cut the anterior root of a nerve, this root, which previously gave signs of sensibility through its whole extent, now does so in its peripheric end only. The end attached to the spinal cord has become insensible."

"The sensibility of the anterior root comes, then, from the posterior root, and not from the cord." "Moreover, if leaving the anterior root intact, we cut the posterior, the sensibility of the anterior root is lost." "It is, then, doubly shown, that the sensibility of the anterior root comes from the posterior." "But, how does it come? Evidently by return, by a circuit, or half circuit; and this half circuit is made at a distance." "Magendie cut the whole nerve, the compound nerve formed by the junction of the two roots near the point of junction. He cut it four lines, six lines from this point, and the sensibility of the anterior point was equally lost."

"This return, then, occurs at a distance very far off, and by the extremities of the nerves, as the return of the blood from the arteries to the veins only takes place at the extremities of these vessels."

"This recurrent sensibility is the first feature (*trait*) of what I call the nervous circulation."

"Reflex Action.—Cut the head off an animal, pinch his foot or his tail, and he withdraws it. This is the fact so well studied by Marshall Hall. What passes in this case? The sensitive nerve from the point irritated has carried the impression to a corresponding point of the spinal cord; from this point the irritation is communicated to the motor nerve, and the foot, or the tail, is moved." "Reflex action thus understood, is the

complement of the recurrent action. This takes place by the extremity of the nerves, as that by the spinal cord."

"These two half circuits, the recurrent and the reflex, complete the circuit, and constitute the entire circulation."

BOOK AND PAMPHLET NOTICES.

Cours de Physiologie Comparees. Leçons professées au Muséum d'Histoire Naturelle.
Par M. Flourens. Paris, 1856.

COURSE OF COMPARATIVE PHYSIOLOGY. Given at the Museum of Natural History, (Garden of Plants.) By M. FLOURENS. Paris, 1856.

When M. Flourens writes a book, science is advanced and the world benefited. This is well known to men of science, particularly to students of physiology and of natural history, and all his works might be cited as proofs. We limit ourselves to the citation of his works on the nervous system, and on the growth of bone, as sufficient for our present purpose.

The practical merit of Flourens' books consists in this, that while they are unsurpassed in accuracy and originality as works of science, they often solve and put at rest incidental questions of a popular nature, the proper understanding of which is of importance to society. Thus, his work on the brain was the basis of his *Examen de la Phrenologie*, in which the theory of bumps and big heads received its final quietus.

The present work treats of the origin and formation of living beings, of spontaneous generation, of the origin, extinction and transformation of the species of animals. Incidentally, it demolishes that fabric of speculation and fanciful views developed with so much clearness in a popular form, in the romance called the "Vestiges of Creation," a work founded on the theory of cell formation of Schwann.

It is on this account that we take this occasion to give our readers some knowledge of this work of the illustrious secretary of the Academy of Sciences. We wish, too, that our readers should perceive that the science of physiology is concerned in

the solution of all these great questions which have arisen during this century; that it is not, as is sometimes asserted, the science of organs and functions only.

It is often said, that the dead are many times more numerous than the living. This is true of the species as of the individual. The extinct species far outnumber the living. Seven species of fossil hippotomi are found in the chalk beds under Paris: there is but one living species known. "There are 40,000 species of fossil shells now extinct." Is the earth, then, being depopulated? Not at all. "The number of species is daily diminishing." "The quantity of life on the globe is always the same."

What is the characteristic of each species of animal? It is the power of perpetual reproduction. A cross between the horse and ass, between a dog and a jackal, may sometimes reproduce, but never beyond the fourth degree. It is the character of hybrids or mongrels to become extinct at the fourth generation at the farthest. There is no evidence that any species of animal has ever changed its essential characteristics of form, habits or character. While the individuals change, and the elements of each are always changing, the form is perpetual. M. Flourens asserts, and no one is more competent to decide, that from the earliest historical period to the present, there is no evidence that a single species of animal has ever changed its essential characteristics.

Such being the facts, we are prepared to do justice to the theories of creation invented by ingenious speculators. A Frenchman, named Maillet, consul at Cairo in 1748, led off in the explanation of the origin of animals on the earth. Finding that appearances indicated that the earth had at an early period been covered with water, he concluded that all animals had at first been fishes. The waters retiring, left the fishes in the mud, and they crawled, hence reptiles; the flying fish became birds, etc. M. Maillet asserted that man himself was originally a fish.

All this is sufficiently ridiculous, but it is precisely the theory of Lamarck, which in the more scientific names has many supporters. Lamarck makes every thing from the monad. The monad developed becomes the polypus, and this in turn, accord-

ing to the circumstances in which it is placed, originates the different species of animals. The monad of Lamarck is the cell of Schwann, which, under different circumstances, is developed into the various forms of living beings which people the earth.

In answer to this theory, M. Flourens points to the fact, that neither climate, temperature, food, mingling of blood, convulsions of nature, nor any other cause, has ever been able to change the characteristics of the species. It may become extinct from these extraneous causes, but while it lives, it retains the same form.

Hence all men are of the same species, and have a common origin. This is the conclusion to which the facts adduced incidentally led. M. Flourens, in attempting to demonstrate the unity of the human race from physiological laws, arrives at the conclusions which have formed the basis of popular belief from time immemorial.

He will, no doubt, be received as a welcome recruit in the ranks of the defenders of this doctrine; for, truth to say, it has been attacked of late years, with a degree of earnestness and vigor which have seriously shaken the faith of many in its correctness. Are the races of men, dogs, horses, and oxen, respectively of the same parentage? The question cannot be regarded as settled. As yet the weight of scientific authority seems to be in favor of the affirmative.

But, how was animal life first introduced upon the earth? Was it by spontaneous generation, or some other unexplained means?

All antiquity believed in spontaneous generation. For them everything came out of the earth. The renewed force and activity of both vegetable and animal life exhibited in the spring seem to the careless observer to prove it. Epicurus said, the earth, in its first energy, produced all animals and men. Plutarch acknowledged that in his time this energy was greatly diminished, and only produced rats. Burdach, one of the ablest of recent physiologists, believed in spontaneous generation. M. Flourens does not believe in it. He combats this doctrine with an array of facts and force of logic, which scarcely fail to carry conviction to the mind. The scientific world at the present time

is almost unanimous against it. "Of all errors," says Flourens, "this is the most absurd." "It is also the hardest to kill." It is in truth hard to kill. There are some who believe, that all the life on the earth resulted from the action of the rays of the sun upon it. Every year somebody succeeds in creating some little animals, as he thinks; and scarcely is the source of deception detected, than others, by different processes, are produced. The last instance of this kind was that of M. Pouchet, who, on the 20th Dec. last, presented a paper to the Academy of Sciences, in which he says:

"After having repeated all the serious experiments heretofore made on this subject, I came at length to those of Messrs. Schultze and Schwann." "At the present time I can certify that, by following exactly the processes pursued by them, and even by varying them, and giving them a much higher degree of precision, I have constantly obtained a positive result." "We see produced animalculæ and cryptogamia in a glass bottle, in which all trace of organic germs have first been destroyed, and where the air could only come, after having been amply washed in concentrated sulphuric acid, or after having traversed a labyrinth of fragments of porcelain at a red heat." M. Pouchet also produced his animalculæ in artificial air. We have not seen the report on this paper by the committee charged to examine it, of which M. Flourens was one. M. Pouchet is an eminent physician, and incapable of deceiving, unless deceived himself. But he will hardly gain for his views the assent of the "Imperial Academy."

Was animal life introduced upon the earth by successive creations, or all at one time?

The doctrine of successive creations is so fixed in the minds of the whole world, that it might seem absurd to call it in question. Nevertheless, M. Flourens does so; combats it, if not with success, at least with a power sufficient to cast a doubt upon it. He says, "the first traces of life are found in the transition series of formations; they appear as mollusca, crustacea, and even fishes. As we ascend in the sedimentary deposits, we meet reptiles, birds, mammifera, and even quadrimana." "The species are not presented, mixed together—each layer presents a dis-

tinct population." Hence it has been inferred that the epochs of creation corresponded to that of the successive layers.

This view supposes that present observations are perfect, that the entire earth has been explored. Nothing is further from the truth. Almost every succeeding year reveals fossils of vertebrata in layers, in which they had before been supposed not to be found. A single specimen found in the lower strata would destroy the whole theory, which, although it now holds possession of the ground, does so by a *precarious tenure*, and is liable at any time to be dispossessed by the production of a better title.

As the views of M. Flourens are new, and opposed to those generally held, we deem it proper to present an outline of his arguments in support of them. They are:

1st. The unity of the animal kingdom. There is not a double animal kingdom, one fossil and the other living. Each taken separately is but an incomplete part, reunited they make a whole, and adopt themselves each to the other, like the parts of a bas relief when restored. Thus the *plesiosaurus* is placed between reptiles and amphibia, the *pterodactyle* binds together birds and reptiles, etc. Yet the former are found as fossils, the latter living.

2d. Most naturalists, following Cuvier, in admitting successive creations, found their theory upon negative facts, as, for example, this: in the layers where reptiles are buried, no mammifera are found. Facts have already shaken, if not demolished this theory. Bones of the *mammifera*, the *quadrimana*, and even of man, *perhaps*, have been found in a fossil state, some of them in the lower strata. We say, perhaps, for M. Flourens does not assert in so positive a manner as M. de Blainville has done, that human fossil bones have been found.

3d. The resemblance, if not identity, of living and fossil species, fossil bones of elephants, horses, bears, etc., can scarcely be distinguished from those of living species. Why should we suppose them created at different periods.

M. Flourens promises to develop the proofs of his theory in detail, at some future time. At present he simply indicates them, concluding his course of lectures with the following words:

"In the times in which we live, the master no longer imposes his doctrines on his pupils; he gives them up for examination, for discussion. Meditate upon the views which I have presented; whether you accept them or not, I shall be happy to have provoked useful and conclusive researches on your part."
"It is thus that each of us will have furnished a stone for that beautiful temple of science which is being erected by the nineteenth century."

ON POISONS, in relation to Medical Jurisprudence and Medicine. By ALFRED SWAINE TAYLOR, M.D., F.R.S., Fellow of the Royal College of Physicians, etc. Second American from the second and revised London edition. Philadelphia: Blanchard & Lea. 1859. Pages 755.

Ten years ago Mr. Taylor's treatise on poisons was noticed in this Journal by Prof. Blaney. In the present edition the author professes to have brought the subject forward according to the advancement of science. Instead of giving a catalogue of poisons with their actions, he has "devoted more space to the consideration of substances which, from the frequency of their employment for murder and suicide, are of great practical importance."

This remodeling of the subject is required by the changes of the last few years.

For instance, the alkaloid strychnia was discovered forty years ago, and in eight or ten years after entered into medicinal use. Its deadly properties as a poison were known to the medical faculty, but it is only within a short time that the public have been apprized of these facts. In England, strychnia had never been used as a poison (except, *perhaps*, in one case) until the use of it by William Palmer; since then, its use for suicide and poison has been often repeated. But when the medical profession have been so educated as to distinguish the symptoms accompanying the administration of it (as a choking sensation, twitchings, and tetanic convulsions), the villain will fear to use this means of killing his victim.

The forty-three chapters of the present volume treat of the nature of poisons—their mode of action—absorption—influence of habit—classification, etc.—evidence of poisoning in the *living*

body—diseases resembling poisoning—evidence of poisoning in the *dead* body—evidence from chemical analysis—experiments on animals, etc. The author treats extensively of irritant poisons as mineral acids—oxalic acid—alkalies and alkaline salts—phosphorus—arsenic—mercury—lead—copper, etc.; and of neurotic poisons, divided into the great classes of cerebral, spinal, and cerebro-spinal poisons. Of these, the most common are opium, prussic acid, alcohol, chloroform, tobacco, strychnia, hemlock, belladonna, digitalis, and lobelia.

On page 696, in speaking of G. W. Greene, of Chicago, the author advances the opinion that there was a "failure of the medical evidence to show that death was caused by strychnia," and that the chemical analysis merely proved the existence of a medicinal dose of strychnia. But all who are cognizant of the facts will feel that no injustice was done to Mr. Greene by the verdict rendered.

The position of Mr. Taylor, as Professor of Medical Jurisprudence and Chemistry in Guy's Hospital, would be sufficient guarantee of close study and careful enunciation of the truth on this difficult subject. Besides, he is already favorably known to the American public as author of a treatise on medical jurisprudence and a former edition of this same book, which has risen to the position of a standard work. He has attained a great reputation, and occupies a niche in equal rank with Orfila and Christison. To any one who wishes to understand the subject of poisons, and especially in their relations to medicine and law, this treatise will afford great assistance. D.

EXTRACTS.

ON SCARLATINA AND ITS TREATMENT.

By E. BISHOP, M.D., Devonport.

If we would have a science and the art founded thereon, to become more and more pure, we must direct our studies in the way which our present acquaintance with the science points out

to us. If the way be one of theory, we must theorize; if it be one of practice and observation, we must observe and investigate. Medicine is essentially a science of facts. The store of facts is gradually accumulating, and has already, indeed, increased to such an extent as to render the teaching necessarily more and more practical, and to show that things, not words *en masse*, form the material with which the practitioner's mind must be supplied. The more medicine is made to partake of the real, the more prominent and bright will it shine.

The foregoing I saw in print some time since, and the remarks appear applicable to the following. It is desirable that contributions to the medical press, however trifling they may appear to some, should be published, especially respecting any new or successful treatment in serious diseases. It is the duty of the practitioner to record his method of treating disease even if it does not appear strictly orthodox, or in accordance with the prescribed methods. If we had to rest entirely upon the authority of even our best authors, we should fall miserably short; for the numerous opinions given as to the nature and treatment of this and other diseases are so contradictory and conflicting as to mislead the matured as well as the juvenile practitioner. Or, to quote the language of Dr. Gilmour, "My young brethren in medicine must not trust implicitly to what they read in books; many of them are truly valuable and trustworthy, but others (and of these there is a large number) are written to suit a purpose, and contain trash."

I beg to state as briefly as possible the treatment I have adopted in this disease during the last nine months. There is nothing original in it, so far as it relates to myself. I know friends who have tried it with marked success. Scarlatina has been rife in this town for the last nine months, and has proved fatal to a large number of children belonging to all classes of society. In many families, one, two, and even three have succumbed to it. I applied to the Registrar for the exact number of deaths from this disease in the three quarters ending March, June, and September, 1858, and he has been kind enough to supply me with a return, by permission of the Registrar-General. In the first quarter of the present year, the deaths from scarlatina

reached 23 ; in the second, 44 ; and in the third, 27, in children under ten years of age.

In fifty-one cases of scarlatina scattered over the town, in children varying from two to ten years of age, my plan of treatment has been tonics from the commencement (*i. e.* from my first visit), either the citrate of iron, or the tincture of the sesquichloride, in the usual full doses ; and I have every reason to be satisfied with the result, having lost but one case. I made no difference in *the plan of treatment* even when serious complications presented. In many the fever was intense, the inflammation of the throat severe, and pain in swallowing very considerable. Four children in one house, in Cannon street, had scarlatina anginosa in an aggravated form, being attended with an acrid discharge from the ears and nostrils. In one case deafness has remained nearly permanent. I entirely discarded the application of strong caustics to the throat and tonsils, which many years' experience has taught me is injurious in very young children, and calculated to do more harm than good, to say nothing of the injury and difficulty attending the operation. External applications to the throat I found most beneficial—either the compound camphor liniment, oil and hartshorn, or turpentine sprinkled on a strip of flannel, previously wrung out of hot water, and applied several times during the twenty-four hours. Inhaling the steam of hot water gave much relief, as it generally does. The children I have been called upon to treat have long belonged to the poorer class ; the diet necessarily simple ; in severe cases, broths, beef-tea, milk, jelly, and wine were recommended, and procured, if possible. One gratifying result in the treatment of scarlatina with iron, as far as my experience carries me, is that the children, with few exceptions, escaped that serious and frequent sequel—anasarca.

I have seen two cases of diphtheria following scarlatina during the epidemic, in children four and six years of age. The first child had been convalescent a week or ten days, and I must confess, I could not understand the cause of the relapse. After a few days, I suspected diphtheria ; the child would never allow me nor the parents to examine the state of the throat, although rough usage was resorted to more than once or twice. During

the time it suffered extreme prostration, and was supported by wine and beef-tea; it also took a mixture containing the tincture of the sesquichloride of iron. This child ultimately coughed up the membrane characteristic of diphtheria. A fit of vomiting and coughing came on at a time when it appeared beyond hope; but when the membrane was released, the child was relieved, and gradually rallied.

A remarkable case under my care was that of a boy, aged four years, belonging to the Royal Naval and Military Free Schools. I first saw him twelve weeks ago from the date of this communication; he had then scarlatina anginosa, from which he recovered sufficiently to enjoy a walk. About a fortnight (to use his own words) "pimples coming out of his face and body." On visiting him, this proved to be variola discreta. He had been successfully vaccinated, judging from the cicatrices in his arm. The little fellow suffered severely; he had not regained his strength from the debilitating consequences of the previous illness. He was kept up by wine, beef-tea, ammonia and bark, as maturation of the pustules went on but slowly. He recovered from this attack, but not sufficiently to return to school, when I was requested to visit him, as he had whooping-cough, which was and is now epidemic in this town; and this being complicated with pneumonia, terminated his existence a few days ago. There was something remarkable in the fact of this child having three of the most serious and fatal diseases of childhood in the short period of three months. One little girl who was in the habit of going to the house of the deceased is now under treatment for variola.

I trust the tonic treatment of scarlatina with iron may have a trial elsewhere, and prove as efficacious and successful as it has been with me. I conceive it is far better to prove by facts than to judge and condemn without a trial, simply because the treatment does not harmonize with the doctrine laid down by our popular authors and preceptors.—*London Lancet*.

ON THE SPECULUM VAGINÆ.

BY JOHN P. METTAUER, M.D., LL.D., OF VIRGINIA.

The employment of this instrument, of late years, in the exploration and treatment of uterine affections, has become almost as common as the stethoscope and percussion in the diseases of the thoracic organs. Even inexperienced practitioners, who have barely laid aside the swathings of their pupilage, presume to employ it, and speak authoritatively of the mode of applying it, as well as of the diseases demanding its use. They seem to regard the operation as a thing of little importance, as far as female delicacy is concerned, and to believe that poor woman should submit to it, even if a disease of the uterus is only suspected to exist, that might possibly render the speculum necessary hereafter.

Every enlightened and humane physician will concede that a necessity will sometimes arise for the employment of the speculum, as well as other modes of exploration, repulsive to female delicacy. In such cases a sacrifice of delicacy becomes a duty, and sensible women unhesitatingly submit to its wise and sacred behests.

The writer has undertaken this communication for the purpose of showing that the speculum, in the investigation and treatment of uterine diseases, has been needlessly employed, and its value, as a means of diagnosis, greatly abused. That the instrument is entirely unnecessary in a large majority of uterine diseases, the writer's experience abundantly testifies. His experience with the speculum, too, has long since satisfied him that the evidence furnished by it is often unsatisfactory, and not to be relied on; nay, in some instances, it is actually deceptive, by reason of the changes caused in the state of the os and cervix uteri, by the pressure of the instrument on them. It has frequently been the case, in the hands of the writer, that the pressure of the speculum has so changed the color and presenting surface of those parts, as actually to defeat the objects of the examination; and such will often be the case in engorge-

ment, the deviation of position, internal ulceration, and very frequently, of ulceration of the os itself, no matter how carefully and skillfully used, it affords little, if any, information of a reliable and useful nature. Even when the three or four-bladed instrument is employed, the operation and results will be obnoxious to these objections in a great degree, and they are the only reliable forms of vagino-uterine speculums in displaying the parts to be examined, and are also more readily and easily introduced; yet, little difficulty will be encountered in the use of any of the speculums now in use, even with a mere novice, who has carefully studied and learned the form, course and depth of the vagina, the highly wrought and faithful account of such difficulties, published in the *Monthly Stethoscope and Medical Reporter*, No. 2, Vol. II., for 1857, to the contrary notwithstanding.

It is not pretended that the speculum is useless, or absolutely unnecessary in vaginal and uterine diseases. Far otherwise—as the writer has employed it in those diseases, in some instances, with the best results. It is to the officious and indiscriminate use of it that he objects, and to the exclusion and neglect of the more reliable and delicate mode of examination by the “toucher.”

The speculum has not found general favor in France, although more employed in that country. At the head of its opponents there, the name of the distinguished Velpeau stands conspicuous; and it is matter of gratulation to the writer to find his views supported by such high authority; yet he entertained these views and carried them out in practice years before he was aware that Velpeau had expressed similar opinions and objections.

It is probable that the physicians of this country and France, more generally and indiscriminately employ the speculum than any others in the civilized world; and it is probable, also, that the taste for using it is due, in a degree, if not wholly, to the clinics, as well as to the hospital practice connected with the medical schools of those countries where female delicacy and exposure are regarded with little concern, as the subjects of the use of the speculum are derived from the most degraded classes

of society, with whom modesty is only known by name. In many instances, the writer has met with women laboring under organic disease of the uterus, who declared to him that they would sooner take their chance to live and die with the disease, than submit to the use of the speculum; and all are more or less opposed to it, even those who finally submit to its employment. Really, it is not to be wondered at, that a modest, delicate woman should feel unwilling to submit her person to such a revolting exposure; and the writer candidly owns that he has never yet applied the speculum, or even examined by toucher, without being more or less abashed and disconcerted, by reason of the exposure the operation necessarily imposes on females. Even the ordinary modes of investigation by question and answer, often greatly shock a modest female, and in a degree, in some instances, embarrass the diagnosis of her diseases.

When organic disease of the uterus exists, and the rational symptoms fail in furnishing the requisite amount of information necessary to form a satisfactory diagnosis, nearly every intelligent woman will consent to a physical examination, if made sensible of the necessity for it, especially if the proposition to do so is delicately presented; and such being the case, it is the duty of the physician, as far as is consistent with safety, to save his female patients all needless shock of feeling from delicate questions or personal exposure.

Entertaining such views of this delicate subject, the writer, some ten years since, directed his attention to the investigation of organic diseases of the uterus, guided by the toucher, chiefly; and, after repeated trials, affording ample experience, he unhesitatingly states that the information it furnishes is far more reliable and satisfactory than that derived from any form of speculum, in determining as to the existence and nature of such diseases. In numerous instances, during the time above stated, he has tested the correctness of his diagnosis in uterine diseases, guided by the taxis. Most of the examples presented ulceration of the os, but in many cases the cervix was also implicated more or less extensively. Ten of them exhibited the os patulous, exceeding in size a Spanish dollar, and deeply ulcerated, the cervix indurated considerably beyond the interior boundary of

the corresponding border of the ulcer, and the general health greatly impaired.

After carefully examining into the condition of the os and cervix uteri by the toucher, he was enabled to detect ulceration with great certainty, as well as induration, engorgement, and all of the deviations of position.

An ulcerated os uteri presents to the experienced touch the same feel as an ulcer on the exterior of the body; and an accompanying induration of the surrounding parts is a very common attendant of such ulceration, as it is also of many external ulcers. Induration of the cervix, however, is decidedly more apt to accompany intra-cervical ulceration; and as it is uniformly met with in such ulceration of the cervix, clearly ascertained to exist, as well as frequently in ulceration of the os likewise, it may safely be inferred that it represents ulceration in all those cases in which the cervix is inaccessible to the touch, when indurated, without ulceration of the os.

In deciding as to the existence of induration of the os or cervix uteri, the speculum is absolutely useless. Even in ulceration, the information it imparts is unsatisfactory and unreliable. In engorgement and inflammation, it furnishes no information that is not derivable from the toucher, elucidative of those conditions, and is far more offensive to the feelings of a delicate woman than the investigation by the *taxis*.

The discharge, said to be characteristic of, and peculiar to, ulceration of the os and cervix, is not by any means constant in appearance, nor does it furnish conclusive evidence in all cases that ulceration does exist when met with. If present, and just issuing from the os uteri, either in its semi-fluid orropy condition, the speculum, if then applied, would only prove that the morbid secretion unequivocally proceeded from the os uteri. The discharge of this diseased product externally, however, affords as satisfactory evidence of ulceration of the os uteri, as if actually seen escaping from the uterine cavity, because its characters are sufficiently marked to remove all doubts of its identity.

Although furnishing pretty satisfactory evidence of the exis-

tence of organic diseases of the uterus, of itself, the revelations of the toucher should invariably be taken in connection with the other symptoms usually met with in such diseases, in forming a diagnosis. The ulcerated os and cervix, when accessible to the touch; the induration; the peculiar discharge; pelvic and dorsal pains; inability to stand at a long time; frequently, abdominal pains; disordered digestion; nervousness; depression of spirits, and the peculiar desponding expression of countenance termed "*facies uterine*," when taken together, leave little room to doubt as to the existence of ulceration of the os and cervix uteri.

The speculum will be demanded in those cases in which the os uteri cannot be reached by the finger, as then no other reliable plan could be adopted for exploring, and treating such examples. Fortunately, these latter instances are rarely to be met with, as the writer has only witnessed two out of over a hundred cases treated by him in ten years. It will also be required in scirrhus uteri, when the indurated cervix is to be excised, and when adhesions between the os or cervix and vagina exist. And it will be indispensable in cauterizing the uterus with the incandescent iron, and in leeching or scarifying the organ.

For the purpose of cauterizing the os and cervix, the writer employs the nitrate of silver, and the acid nitrate of mercury, conveyed to the parts, concealed by a canula directed by the index finger of the right hand; and the operation should be repeated once in three or four days, or after longer intervals, if the previous operation is followed by prolonged bleeding, until the cure is perfected. The nitrate of silver is best adapted to the mild or slight examples of ulceration; while the acid nitrate of mercury should be used when the ulcers are deep and extensive, and especially if the cervix is decidedly implicated. It is best, however, to begin the treatment with the nitrate of silver; and if amelioration seems tardy, then to employ the acid nitrate of mercury in alternation with the caustic silver.

The position most convenient to the operator for examination, as well as for the application of remedies, is on the left side,

with the thighs flexed on the trunk, and the legs on the thighs. The person should invariably be covered, and the nates placed near the border of a bed. In this posture, the parts can generally be reached and examined with the index finger of the right hand with entire convenience; and it is also best for the application of the speculum, as well as the cauterizing agents employed through it.

The first trials, in the use of the caustic, upon the plan advocated in this paper, will, in all probability, be attended with some difficulty; but gentle efforts, repeated again and again deliberately, will soon impart the requisite dexterity of manipulation to insure success; and, after learning how to apply the remedy, the ease with which it can be done will astonish both patient and physician.

A crayon formed of the nitrate of silver, or the stick itself, may be used, applied as already intimated; and, for the application of the acid nitrate of mercury, a short, full camel's-hair brush, or mop, saturated with the undiluted solution, answers best. The canula should be fully ten inches in length, of proper calibre to contain the crayon, or mop, and open at both ends, so as to allow the handle of the crayon to project sufficiently beyond the free, or outer extremity, so as to be held and wielded by the operator's left hand; and it may be formed of silver or glass—the latter material the writer employs, and decidedly prefers.

To guard against vaginal irritation, from accidental diffusion of either of the caustics over its surface, after being applied to the uterus, a weak solution of common salt should be invariably injected into the vagina immediately after any cauterization—using for the purpose a female glass syringe—taking care at the same time that this saline solution is effectually applied to the upper portion of the passage immediately around the cervix uteri. After this the vagina may be abluted daily with simple water, or mucilaginous infusions, such as slippery elm or flaxseed teas, applied tepid or cool, as may be preferred by females. The saline wash may also be used tepid to cool, according to the fancy of different patients.

The bowels should be kept in a soluble, easy condition, using

for the purpose, when necessary, mild aperients, especially gentle aloëtic preparations. When induration of the cervix exists, and if the habit is anæmic, the iodide of iron will be proper. If anæmia, without induration, is present, and more especially should there be nervous debility, and marked depression of spirits, frequently tending to deep despondency, the phosphate of iron will be indicated. It will sometimes be necessary to resort to vegetable tonics in these cases; and in many instances nothing answers better than good porter. The cold infusion of wild cherry bark (*prun. virgin.*) will very often supersede all other vegetable tonics; and the cases most likely to be benefited by it are those attended with undue nervousness, as well as debility. When the liver is torpid, and the bowels refuse to respond to the action of aperients, the nitro-muriatic acid mixture will be found signally beneficial. The diet should invariably be simple, and moderately nutritious.

It will greatly promote recovery, to require patients to remain in bed, or in a recumbent posture, during treatment; and, for months after recovery, every species of traveling will be hurtful. The utmost care should be taken to guard patients against exposure to variable temperature. Catarrhal disturbances invariably aggravate uterine diseases of every kind, and in none do they prove more hurtful than in ulceration and induration of the os and cervix.—*Virginia Medical Journal.*

EDITORIAL.

AMERICAN MEDICAL ASSOCIATION.

The next meeting of this society is to take place at Louisville on the first Tuesday of May next. On the day preceding, there is to be a convention of medical teachers, to take into consideration the question of certain alterations of the present plan of teaching, which have been proposed, and which it is fashionable to call medical reform. Almost every journal among our exchanges has had a word to say on the subject of

the action of this convention, and it seems to be expected in some quarters, that it will be able to propose some kind of alteration, which is to be of signal benefit to the profession. For ourselves, we regard this expectation as altogether unreasonable.

In the first place, neither the convention, nor the association, has any power over the action of the colleges, the profession, the public, or the students.

The colleges will go on as heretofore, granting diplomas so long as it is for their interest so to do.

The profession will, as before, remain, for the most part, indifferent spectators of the action of the colleges.

The public will continue to employ the doctors graduated by the colleges, so long as they are the best they can get. When the people will no longer employ the doctors created by the colleges, the conferring degrees will be likely to be given up.

Students will continue to resort to the best or the most popular schools, or, if of limited means, to those within their reach.

How, then, is medical instruction to be improved? This must be done by substituting the idea of improvement for that of "reform." This is to be effected by improving the quality of the lectures in the medical schools. Excellent as are many of these courses, there is still room for improvement, particularly in the means of illustration. What is necessary for teaching is also indispensable for investigating. The founding of the Mott and Mutter collections is among the best evidences of progress, and the most cheering signs of the times. Medical libraries adapted to the purpose of the thorough research are among the means of improvement whose want is most severely felt.

Teaching outside of colleges, in offices, hospitals, and by associations, is to be encouraged. What would the medical teaching of Paris be if reduced to the official courses? It is the private courses which give to the teaching of that city its greatest advantages. In this respect, the improvement which has taken place in this country within the last twenty years, is remarkable. Twenty years ago, it was difficult to obtain a thorough knowledge of auscultation and percussion, still less of

other *specialities*, in the United States. Now, there is no large city in which they cannot be acquired with a good degree of accuracy.

Still, there is much to be desired in this respect, and it is in the power of the colleges to effect something in the way of improvement, by instituting preparatory and complementary courses of teaching.

Already have movements in the right direction been made, and it is from their encouragement that improvements in teaching can be expected.

So long as the cant phrase "elevating the profession," is the motto, little is to be expected in the way of true scientific advancement. The physician who, by diligent study, acquires skill and knowledge beyond his neighbors, not only receives the reward of his diligence, but stimulates many others to imitate his example. He who writes an essay of value to the profession, not only improves himself and instructs others, but sets an example, the influence of which is felt far and wide. The same is more emphatically true of valuable books. General improvement is composed of an aggregate of individual instances of it; and these latter must precede the former.

If any man mourns once the low state of medical knowledge, let him by his own industry, set an example of what a physician should be in practice, teaching and writing. That is the best thing he can do.

We do not despair of seeing something accomplished by the national association much more useful than anything it has yet done. It is discouraging to see incompetent, noisy individuals thrusting themselves into places of prominence in its meetings. It is melancholy to read some of the reports on "medical literature," and medical education, which these same persons, as chairmen of committees, have inflicted upon us. But these are rather the exceptions than the rule.

We indulge the hope of yet seeing the association so organized, that the presenting and discussion of scientific papers and subjects, in sections, shall constitute the business of its meetings. Of how great advantage to the surgeons and surgery of America would a meeting of those cultivating that branch of

the science be, if assembled for discussion, we need not say. To us, this appears to be at the present moment, the only suggestion in the way of reform which we feel at liberty to make.

We omitted to mention, that Taylor's work on Poisons can be procured of W. B. Keen, 148 Lake street, who keeps a large assortment of medical works.

We are making arrangements to issue the *Journal*, on the first of every month. On the first of June, we expect to furnish our patrons at the proper time.

Those who have not paid in full are requested to forward the amount in arrears, as this will save the expense of collecting. We feel satisfied that they will gladly comply with this request.

In future the space devoted to advertisements will be an addition to this *Journal*, and not be taken from the body of the work. The advertising department is now placed in the hands of the printer, Mr. J. Barnet, 189 Lake street.

MISCELLANEOUS MEDICAL INTELLIGENCE.

CHICAGO ACADEMY OF THE MEDICAL SCIENCES.

A new medical society has recently been organized in our city, with the above title. Judging from the harmony and zeal manifested at its former meetings, and also from the high character of the gentlemen composing it, we have not the least hesitation in saying, that it will be an entire success, fulfilling the expectations of its most sanguine friends. The profession of Chicago have long felt the need of such an institution as the present organization promises to be, and it is to be hoped that the medical fraternity will unite in placing it on a basis equal to that of the N. Y. Academy of Medical Science, and other kindred societies in eastern cities. They propose to secure a charter at the next sitting of the Legislature, thus securing for themselves a permanent foundation. One of the main features of the organization is the formation of a library and cabinet.

The Academy meets on the first Monday of every month, at the lecture room of Sloan's Commercial College.

The following is a list of the officers :

<i>President,</i>	De Laskie Miller, M.D.
<i>1st Vice-President,</i>	J. N. Graham, M.D.
<i>2d " "</i>	J. R. Gore, M.D.
<i>3d " "</i>	E. C. Rogers, M.D.
<i>Recording Secretary,</i>	S. C. Blake, M.D.
<i>Corresponding Secretary,</i>	E. L. Holmes, M.D.
<i>Treasurer,</i>	R. C. Hamil, M.D.

Trustees.

James Bloodgood, M.D.	J. P. Ross, M.D.
Ephraim Ingalls, M.D.	

Committee on Admissions.

Thomas Bevan, M.D.,	Wm. Scott Denniston, M.D.
S. Schneider, M.D.	

Committee on Medical Ethics.

H. A. Johnson, M.D.,	James Bloodgood, M.D.
David Rutter, M.D.	

Committee on Medical Education.

Charles Duck, M.D.,	Ephraim Ingalls, M.D.
E. L. Holmes, M.D.	

Delegates to American Medical Association.

Dr. S. C. Blake, Dr. J. L. Page, and Dr. J. N. Graham.

Delegates to Indiana State Medical Society.

Dr. J. L. Page. Dr. J. N. Graham.

STATISTICS OF MEDICAL COLLEGES FOR THE SESSION 1888-9.

The following statistical table includes all the schools we have heard from.

It is necessarily incomplete; but we shall keep the table standing, and endeavor to complete it in the May number.

If errors occur, we shall be glad to be corrected from any quarter.

	Students.	Graduates.
College of Physicians and Surgeons, (N. Y.)	180	39
University of New York,	350	128
New York Medical College,	107	25
University, Buffalo,	67	13
Albany Medical College,	—	48
Geneva Medical College,	—	—

	Students.	Graduates.
Jefferson Medical College,	570	256
University of Pennsylvania,	410	140
Pennsylvania Medical School,	150	33
Philadelphia School of Medicine,	130	17
Pennsylvania University,	—	—
Rush Medical College,	127	31
University, Louisiana,	306	—
New Orleans School of Medicine,	140	36
Missouri Medical College,	—	23
St. Louis Medical College,	135	40
Massachusetts Medical College,	139	30
University of Louisville,	—	35
Kentucky School of Medicine,	103	28
Cleveland Medical College,	—	—
Ohio Medical College,	140	32
Oglethorpe Medical College,	50	13
Savannah Medical College,	34	8
University of South Carolina,	—	—
Memphis Medical College,	—	—
Shelby Medical College,	53	11
Medical College of Virginia,	—	20
University of Virginia,	—	—
University of Maryland,	—	—
Yale Medical College,	—	—
Castleton Medical College,	—	—
Berkshire Medical College,	—	—
University of Iowa,	—	—
Woodstock Medical College,	—	—
Medical College of Georgia (Augusta)	165	58
Dartmouth Medical College,	—	9
Atlanta Medical College,	—	—
University of Michigan,	143	—
Starling Medical College,	—	—
University, Vermont,	—	—
University, Nashville,	436	103
Medical College of Maine,	50	—

UNIVERSITY OF THE PACIFIC.

A new medical school opens in May next, at San Francisco, California. Its present faculty consists of Drs. Morrison, Rowell, Cole, and Cooper. Dr. Cooper formerly resided at Peoria, Ill.

TITLES OF SOME OF THE PRINCIPAL ARTICLES IN OUR EXCHANGE JOURNALS.

- American Journal of the Medical Sciences*.—Carcinoma, *Woodward*: Carbuncular Inflammation of the Lip, *Lente*: Criminal Abortion, *Storer*: Encysted Tumor of Ovary, *Miller*: Effect of Alcohol, Glycerine, etc., on Exposed Hearts of Frogs, etc., *Mitchell*: Colorless Blood Corpuscle, *Hammond*: Gangrene of the Lungs, *Darrach*: Fracture at Base of Cranium, *Lockwood*: Extension Apparatus for Fractures, *Chapin*: Isthmus of Panama and Hospitals of Havana, *Horner*.
- North American Medico-Chirurgical Review*.—Obstetric Jurisprudence (No. 2), *H. R. Storer*: Medicine in China, *J. J. Kerr*: Excision of Sciatic Nerve for Neuralgia of Stump following Amputation of Thigh, *G. C. Blackman*: Proceedings of Pathological Society of Philadelphia.
- New York Journal of Medicine*.—Management of Shoulders in Examining Chest, *Corson*: Diseases Treated at New York Eye Infirmary, *Bumsted*: The Hymen, *Thomas*: The High Operation for Stone in the Bladder, *Hewit*: Respiratory Sounds, *Herzka*: Proceedings of the Medical Societies and of the Practice of New York Hospitals, *Shrady*.
- American Medical Monthly*.—The Elliptical Artificial Tympanum, *Clark*: Surgical Cases, *Briddon*: Medical Practitioners of Ancient Rome, *Peaslee*.
- Charleston Medical Journal*.—Cerebral Neuralgia terminating by Serous Apoplexy, *Da Costa*: Chancre of the Uterus, *Kollock*: Yellow Fever treated as an Exanthem, *Ogier*: Arnica-Montana, *Talley*: Treatment of Dysentery, *Forwood*: Pathology and Treatment of Yellow Fever, *Porcher*.
- Pacific Medical and Surgical Journal*.—Syphilis and its Treatment, *Toland*: Diphtheria, *Blake*.
- London Lancet*.—Diphtheria, *Ranking*: Strumous Ophthalmia, *Henry*: Lithotomy in Children, *Adams*: Ischyl, its Water and Baths, *Bennet*: Case of Hydrarthrosis of Knee-joint treated by Tapping and Iodine externally, *Hodge*: Case of Ununited Fracture, *Davies*: After-Pains, *Willis*: Syphilitic Inoculation, *Lee*: Report of *Lancet* Sanitary Committee on Diphtheria; Diphtheria, *Ramskill*: Sanitary Condition of the British Army.
- Montreal Medical Chronicle*.—Myeloid Tumor, *Howard*: Case of Twins with Single Placenta, *Grant*: Hour-glass Contraction of Uterus with the Fœtus, *McGarvin*.
- Nashville Journal of Medicine and Surgery*.—Graduating Address, *Singleton*: Pathological Geology, *Shapard*: Fevers, their Identity, etc., *Johnson*.

- Nashville Monthly Record*.—Clinical Lecture on Hernia, *May*.
New Orleans Medical News and Hospital Gazette.—Chemistry of Respiration, *Crawcour*; London Correspondence: Hospital Reports.
- St. Louis Medical and Surgical Journal*.—"Bruit de Pot Fele," *Gilfillan*: Stomatitis Materna, *Pallen*: Large Doses of Ipecacuanha in Dysentery, *McPheeters*: Retroversio Uteri, *Bolinger*: Proceedings of the St. Louis Medical Society.
- Oglethorpe Medical and Surgical Journal*.—Rational vs. Routine and Book Practice, *Smith*: General Dropsy, *Dozier*: Case of Stabbing in Abdomen, *Byrd*: Case of Fractured Cranium, *Mims*.
- Cincinnati Lancet and Observer*.—Bronzed Skin with Disease of Supra-Renal Capsules, *Krause*: Opium in Parturient Process, *Logan*: Fœtal Malformation, *Browning*: Laceration of Scrotum, *Bowman*; Injury to the Knee-Joint, *Haughton*.
- Ohio Medical and Surgical Journal*.—The Cole Case, *Mixer*; A case of Gun Shot Wound, *Culbertson*.
- Buffalo Medical Journal*.—Partial Dislocations, *Mercer*; Esquisse of Parisian Medicine and Surgery, *Mack*; Erysipelas, *Gay*; Prof. Hamilton's Clinics.
- Southern Medical and Surgical Journal*.—Malarial Fever, *Jones*; Case of Lithotomy, *Hammond*; Horse-shoe Pessary in Retroversion of Uterus, *W. B. Jones*.
- Virginia Medical Journal*.—Puerperal Phlebitis and Purulent Infection, *Thweatt*; Epidemics of Piedmont, *Payne*; Irregular Uterine Contractions, *Dashiell*; Traumatic Cerebritis, *Brock*.
- Atlanta Medical and Surgical Journal*.—Chloroform in Labor, *Logan*; Cases and Clinics.
- Louisville Medical Gazette* (semi-monthly).—Inguinal Hernia, *Goodwin*; Gun Shot Wounds, *Cook*; Sulphur as a Dentifrice, *Wright*.
- Semi-Monthly Medical News*.—Statistics of Hernia, *Richardson*; Case of Traumatic Tetanus successfully treated by Atropia, *Editors*; "Nature and Art," *Speed*; Medical Education.
- Peninsular and Independent*.—The Whitney Case: Case of Idiopathic Tetanus, *Fairbank*; Veratrum Viride, *Patterson*.
- Maine Medical and Surgical Reporter*.—A Plea for the Children.
- Medical and Surgical Reporter* (weekly).—Veratrum Viride, *Foster*; Fractures through the Inferior Extremity of the Radius, *Smith*; Kameela, the new Anthelmintic, *Boisnot*; Regional Anatomy, *Agnew*; Tuberculosis, *Ziegler*; Pancre-

- atics, *Lawrence*; Amaurosis Treated by Strychnia, *Jaquet*; Full Reports from Philadelphia Hospitals.
- Boston Medical and Surgical Journal* (weekly).—Parasitical Disease of the Scalp; Treatment of certain Diseases of the Lachrymal Passages, *Williams*.
- American Medical Gazette*.—Uterine Speculum, *Woodward*; Veratrum Viride; Palmer's Patent Hand, Arm and Leg.
- Belmont Medical Journal*.—Can Quackery be Stopped? Veratrum Viride, *Estep*.
- The Scalpel*.—"An entirely original Quarterly Expositor of the Laws of Health and Abuses of Medicine and Domestic Life."
- American Journal of Pharmacy*.
- Journal of Materia Medica*.
- American Journal of Dental Science*.
- Dental News Letter*.
- Dental Register of the West*.

WANTED.

Medical Students, to act as Agents for the *Journal*.

CHICAGO MEDICAL SOCIETY.

This is the "Cook County Medical Society" christened with a new name. We are happy to be able to state that it is in a flourishing condition. At its last annual meeting, the following gentlemen were chosen officers for the current year:

<i>President,</i>	Dr. D. D. Waite.
<i>Vice-President,</i>	Dr. Swayne Wickersham.
<i>Secretary and Treasurer,</i>	Dr. N. S. Davis.

Delegates to the American Medical Association.

Dr. N. S. Davis, Dr. Swayne Wickersham, and Dr. O'Ryan.

Delegates to State Medical Society.

Drs. Woodworth, Amerman, Holmes and Clapp.

It is suggested that, when doctors fight duels, the weapons used should be pills. We fear the suggestion will alarm non-professional readers.